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Finer Points

SUPERABRASIVE INDUSTRY REVIEW

Featuring INTERTECH 2013 Call For Papers, Registration Packet & Conference Details

THIS ISSUE

GE Aviation moving to apply ceramic matrix composites to the heart of future engines.

What is INTERTECH 2013?

INTERTECH 2013 Call For Papers

News and Notes

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Venue for INTERTECH 2013

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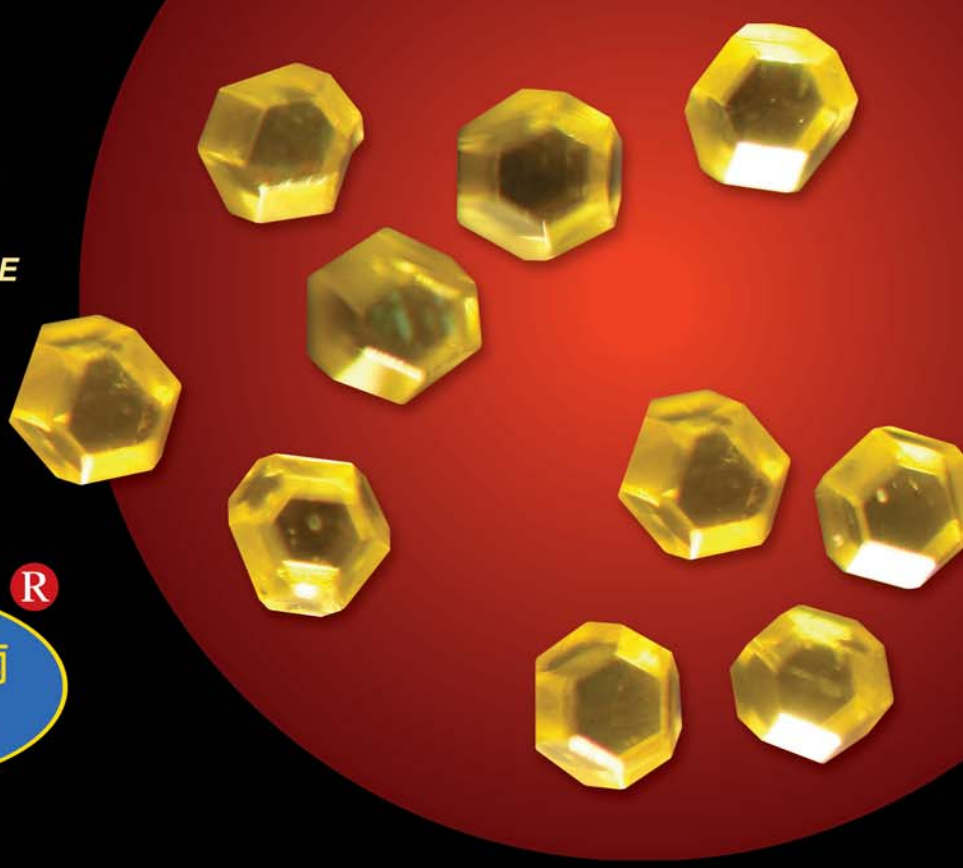

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COVER PHOTO

Photo courtesy of Boeing Company shows 747 in flight. Aerospace and Defense are being featured at INTERTECH 2013 because the components and parts manufactured in these industries are made of COMPOSITES, CERAMICS, RENE, HASTELLOY, WASPALOY, INCONEL, HAYNES ALLOYS, INCOLOY, HIGH SILICON ALUMINUM, THERMAL SPRAYS, TITANIUM, METAL MATRIX COMPOSITES, BI-METALS and other difficult to machine and grind materials. In order to maintain productivity and process improvements, diamond, cubic boron nitride and polycrystallines, need to be used in all manufacturing operations.

FINER POINTS is the longest running publication devoted exclusively to the understanding, selection and application of diamond, cubic boron nitride and related materials. It is edited for recipients who are involved in some way with these "superabrasives", either as providers of the materials, producers of products containing the materials or users of these products (e.g., grinding wheels, dressing tools, drill bits, saw blades, sawing wires, cutting tools, polishing compounds, CVD film products, etc.).

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A Finer Point of View...

What happens when an irresistible force meets an immovable object? Although it is not really a particularly deep philosophical question, it is a classic paradox. An irresistible force can move any object. An immovable object cannot be moved. It makes a person think, especially if you are in manufacturing ... In the real world of manufacturing an immovable object could be associated with a very tough or hard to machine/grind workpiece material and the irresistible force can easily be seen as a superabrasive tool material.

This question becomes paramount in 2013 the year of INTERTECH. Our organizing committee has decided that each INTERTECH from now on will feature one significant industry while still covering all the other industries where superabrasives are making inroads. Since 2000, INTERTECH has been the leading conference dedicated strictly to the technology and application development of diamond, cubic boron nitride, CVD diamond and polycrystalline materials classified as "superabrasives" due to their long life and superior performance throughout all industries. The organizing committee recognized that aerospace and defense are extremely important because the components and parts manufactured are made up of Titanium, ceramics, Bi-metals, metal matrix composites, high silicon aluminum, Rene, Waspalloy, Hastelloy, ceramics, composites and other exotic materials. What make these materials so unique are their properties combining light weight with extremely high strength. In aerospace it is paramount that every component be light but also able to handle the stress and strain of in-flight maneuvering. The very properties that make these materials light-weight and strong also make them extremely difficult to machine and grind. To effectively work these materials into a final part or component only diamond and cubic boron nitride can provide the necessary application requirements of high productivity, reduced scrap and cost effective manufacturing

PRESIDENT
Edward E. Galen

operations. Of course aerospace and defense require light and strong components for obvious reasons, but other industries also are seeing the benefits of workpiece materials made of titanium, ceramics, superalloys, metal matrix composites, etc. Automotive now requires lighter cars with better gas mileage and the cross over materials from aerospace can be found in everything from bimetal engine blocks and ceramic lifter rollers to metal matrix composite brake rotors and titanium engine valves. It follows that superabrasives can be found in applications throughout automotive manufacturing operations where productivity and performance are critical. Aerospace and automotive are just two examples of industries that require the performance properties of superabrasives to achieve exceptional productivity and cost effectiveness. Superabrasive application in optics, medical, wire, electronics, construction, woodworking, mining and natural resource exploration are improving operations and accomplishing results never before considered possible.

In the real world where superabrasives provide an irresistible force, immovable objects can't exist!With best regards,

Edward E. Galen, President
Industrial Diamond Association of America

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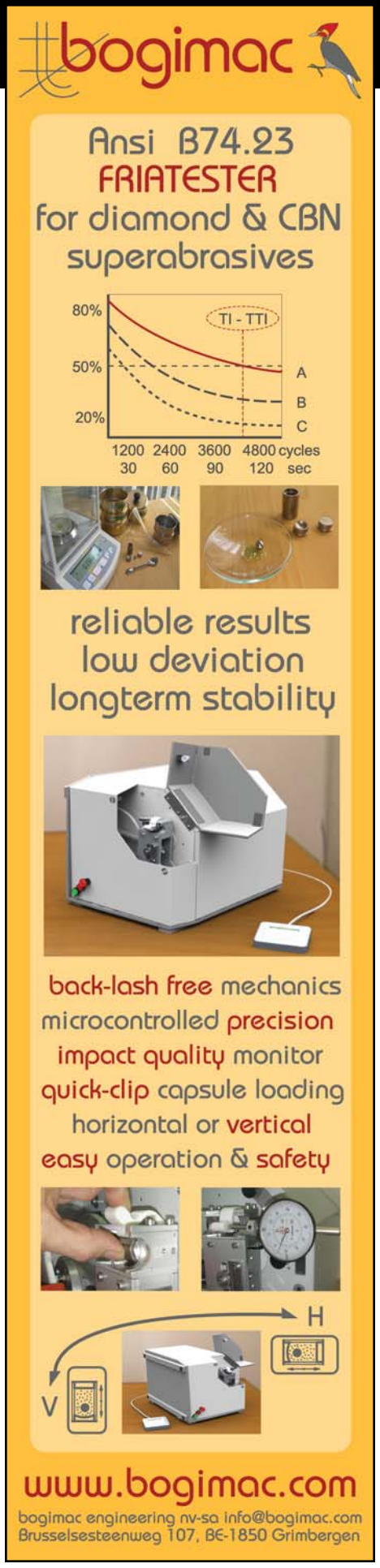
TERRY KANE, Editor

INTERTECH 2013 – Predicting Success

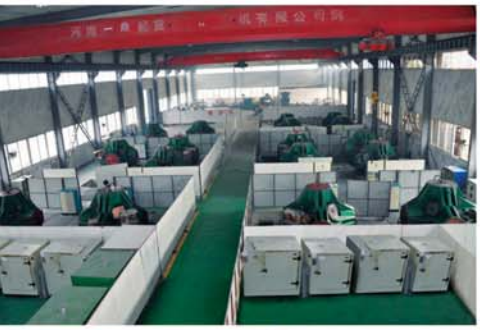
If you're reading this, the world did not end on December 21st, so I guess the Mayans just figured 5,125- years was long enough to keep track of the time it takes Earth to orbit the Sun! Now we've made it past the millennium computer crash and the end of the Mayan calendar ... Good for us! It may be difficult to predict the end of the world and whether it will come from a catastrophic celestial collision between Earth and the mythical planet Nibiru or a disastrous crash with a comet, or the annihilation of civilization by a giant solar storm. Nothing is on the radar for the near future! However, if you want to plan on something that is sure to happen ... Make plans now for INTERTECH 2013 May 6, 7 & 8 at the Hyatt Inner Harbor in Baltimore Maryland USA ...

I have been a part of the INTERTECH planning committee since the first one in 2000 and every time I am impressed with the diverse papers on new technology and application innovations. The world's leading technologists show up at INTERTECH to present papers on every aspect of superabrasive use and research. These presenters are rewarded as people from companies around the globe flock to hear news of what is being developed and what new and innovative applications are being used by all industries. Not only have we seen a growth in traditional superabrasive use for grinding, machining, lapping, drilling, polishing and sawing, but we have been privy to hearing first-hand how superabrasives can be used in exciting operations from drilling in superalloys for aerospace to milling bi-metal engine blocks in automotive. INTERTECH has heralded CVD cubic boron nitride, Nanodiamond carrying cancer killing drugs, PCD used as prosthetics, diamond as blood filtering agents, explosive generation of diamond and other breaking news on research and development. Yet INTERTECH has never remained content with its rave reviews. Every INTERTECH tries to build on previous success and continue to grow and become more in tune with industry. INTERTECH 2013 will have all the excellent papers and speakers you have come to appreciate, but this year INTERTECH will also feature Aerospace and Defense topics and presentations as well. The reason the organizing committee selected Aerospace is the wide use of materials like titanium, superalloys, composites, high silicon aluminum, ceramics and other exotic materials used in parts and components for Aerospace. Since only superabrasives like diamond, cubic boron nitride and polycrystallines can machine and grind these component parts cost effectively with reduced scrap, the committee felt it was important to feature this industry. Of course the exotic materials used in aerospace are also used in other industries like medical, electronics, automotive and many more, so the cross-over technology between industries is apparent. INTERTECH has always been committed to research and new product development with a results-based real-world application message. The formal presentations have always been excellent, but many past attendees attribute their excitement and keen interest to the hallway discussions and informal meeting with experts they meet at this renowned technical conference. INTERTCH 2013 will once again prove to be the leading global technical conference on superabrasives and their application. I Hope to see you there!



THE FUTURE OF SUPERABRASIVES

Mr. Han Jun, President and CEO of BESCO Superabrasives
Mr. Chris Winkel, President and CEO of WWSA
Mr. John Chalvadakis, Operations Manager of WWSA



- WWSA (Worldwide Superabrasives, LLC) and our joint venture partner, BESCO Superabrasives, proudly announce the expansion of our manufacturing facility in Kaifeng, China.
- WWSA/BESCO, which was founded in 2008, has made a significant investment to increase our plant capacity by over 80% to 60,000 square feet to meet customer demand.
- Included in our expansion is our new superabrasive raw material catalyst production facility—continuing our goal of controlling every part of the superabrasive manufacturing process.
- WWSA/BESCO will produce over 140,000,000 carats of the highest quality resin bond industrial diamond and Cubic Boron Nitride (CBN) in 2012 at our Kaifeng factory.
- WWSA/BESCO will increase the expansion of our manufacturing capacity to no less than 180,000,000 carats by the end of 2013.
- Recent reports indicate that approximately 90% of superabrasive raw materials are manufactured in China—regardless of the name on the label.
- WWSA/BESCO is in a very powerful position for many years into the future as a manufacturer of the highest quality superabrasive raw materials and a provider of world-class technical support, product delivery and customer service.
- IN SUMMARY, WWSA/BESCO will play a significant role in the future of the supply of superabrasive raw materials.

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GE Aviation moving to apply ceramic matrix composites to the heart of future engines.

GE Aviation

EDITOR'S Comment:

This Press Release from GE Aviation is just one example of the application of materials like Ceramic Matrix Composites in aircraft components that will require the increased application of ultra-hard abrasive materials like Diamond, Cubic Boron Nitride (cBN) and Polycrystallines to form, shape and finish these components into final parts.

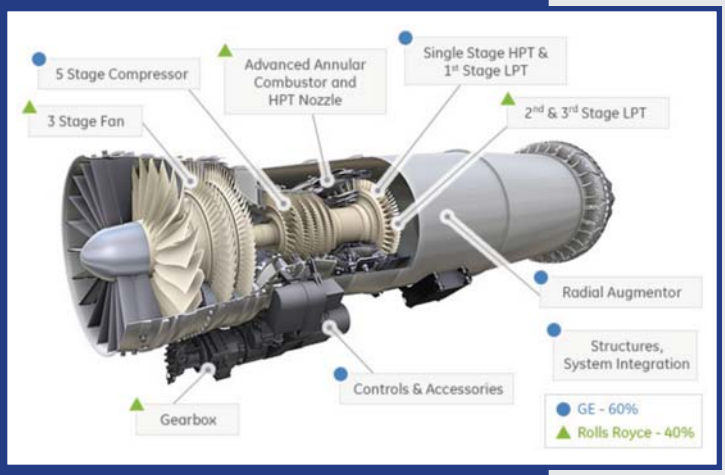
It is no simple feat introducing durable, lightweight composite components into the "hot section" of a flying jet engine. But GE Aviation is achieving this elusive, technical milestone. The GE Rolls-Royce Fighter Engine Team's F136 development engine for the Joint Strike Fighter (JSF) contains third-stage, low-pressure turbine vanes made by GE from ceramic matrix composites (CMC). This could lead to the first commercial use of CMCs in a jet engine's hot section (combustor and turbine areas) when a F136-powered JSF begins flight testing in 2010.

CMC development is a key initiative at GE Aviation, and an enabling technology in several of GE's private and government-funded engine demonstrator programs now underway. Also, CMC components are a key feature of GE's eCore program, the cornerstone for the company's next-generation of jet engines for narrow-body, regional, and business jets. CMCs are made of silicon carbide ceramic fibers and ceramic resin, manufactured through a highly sophisticated process, and further enhanced with proprietary coatings.

They are highly desirable for jet engine components for two main reasons: First, they are lightweight – one-third the density of metal - providing weight reduction and thus, better fuel efficiency. Second, they are durable and more heat resistant than metals, requiring less cooling air, and thereby improving overall engine efficiency. Simply put, removing cooling air allows a jet engine to run at higher thrust and/or more efficiently.

GE Aviation and GE's Corporate Research Center have pursued CMC technology for more than 15 years. Several years ago, GE Aviation ran a government demonstrator engine with a combustor liner and low-pressure turbine blades. GE Aviation produces CMC at its facility in Newark, Delaware. "Developing new jet engine materials takes many years of investment and commitment," said Robert Schafrik, GE Aviation's general manager of materials and process engineering. "But the benefits can provide a considerable competitive advantage. CMCs are a new frontier that will raise the bar in jet engine performance."

GE Aviation has already led the jet propulsion industry in advancing composites in the "cold section" of jet engines with polymeric matrix components made of carbon fiber and epoxy resin. In 1995, GE introduced the first carbon fiber composite front fan blade in an airline engine with its GE90, which powers the Boeing 777. For the new GEnx engine, which will power the Boeing 787, GE will introduce both composite fan blades, using the same fibers, resin, and manufacturing processes as the GE90 blade, and a fiber-braided composite fan case. Both will provide dramatic weight savings.



Schafrik sees a day when CMC components will populate many areas in the engine's hot section, including high- and low-pressure turbine vanes and blades, turbine shrouds, and combustor liners. For example, CFM International, a 50/50 joint company of Snecma (SAFRAN GROUP) and GE, ran a Leap-X demonstrator engine with CMC components as CFM pursues technologies for next-generation engines for narrow body aircraft. Also, CMC combustor liners are under consideration for future GEnx production models.

"Over the next 15 years, jet propulsion advances at GE could help to lay the groundwork for a broader use of CMCs across several industrial sectors," said Roger Doughty, manager of CMC Design and Technology at GE Aviation.

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INTERTECH 2013

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www.intertechconference.com

Hyatt Regency Baltimore Harbor
BALTIMORE, MARYLAND USA
May 6, 7 & 8, 2013

WHAT IS INTERTECH 2013?

INTERTECH 2013 is the Biennial International Conference dedicated to technological advancement and application development with an emphasis on increased productivity and performance using industrial diamond, cubic boron nitride, CVD diamond, polycrystallines and related materials classified as superabrasives. In **2013 INTERTECH** will focus on superabrasive applications and developments specific to the Aerospace and Defense industries. The reason for this focus is the expanded use of exotic materials used in the manufacturing processes for aircraft and defense systems. These exotic materials like superalloys, ceramics, high silica aluminum, composites and others are very light and strong but because of their composition are extremely difficult to machine and grind when manufacturing parts and components. In order to maintain productivity and process improvements, superabrasives need to be used in all manufacturing operations. The characteristics and properties of superabrasives allow for more precision, less scrap and no metallurgical damage on the finished parts. These results are extremely important in all industries, but critical in the aerospace industry. This conference is designed to provide a blend of commercial and technical topics and serve as a global "meeting of the minds" for technologists and business leaders. Historically, **INTERTECH** has been the most successful conference held on superabrasives, drawing global audiences from commercial and scientific communities with myriad disciplines. **INTERTECH 2013** will continue with that prevailing mission to be the largest, most expansive conference ever conducted in this industry. **INTERTECH 2013** will have global leaders in Research, Superabrasive Synthesis, Manufacturing and Application Development of superabrasives in attendance. Discover and share the most significant product developments and new applications in superabrasive technology at **INTERTECH 2013**!

WHY ATTEND INTERTECH 2013?

Diamond, Cubic Boron Nitride (cBN), polycrystallines, CVD Diamond, know as “superabrasives” are making greater strides in most industries. Today, superabrasives or ultra-hard materials are not only serving as abrasives for material removal, but also acting as wear materials, heat sinks, knives, laser windows, heat shields for spacecraft, prosthetics, nanodiamond vehicles to carry disease fighting drugs and other groundbreaking applications. These superabrasives are making it possible to economically use workpiece materials such as superalloys, high tech ceramics, metal matrix composites, bimetals and many more in manufacturing processes. Especially in Aerospace we have seen the need for development of lighter and stronger materials from airframes to turbine blades. These materials are finding their way into other industries like power generation & automotive that must meet the requirements of lighter and stronger components for better performance over longer periods of time. Economics now demand lighter and more fuel efficient airplanes, cars and trucks across the entire transportation industry. Leading manufacturers and service providers have made a major commitment to take full advantage of the properties of diamond and other ultra-hard materials in their processes and applications. New workpiece materials, groundbreaking uses and an increased demand for productivity have heralded the need for superabrasives in every application possible. Machine tools are now being designed to take full advantage of superabrasive cutting tools, wheels and blades and this is just the beginning. Application of superabrasives has grown from the first use of natural diamond to grind tungsten carbide in the early 1940's to a broad range of high production applications across many manufacturing and service industries. From grinding and machining of superalloys and high-tech ceramics in aerospace and defense operations to metalworking of hardened steel, bi-metals or metal matrix composites in automotive as well as the sawing or drilling of stone and concrete or new uses of nanodiamond and CVD diamond & cBN, literally every industry is seeing the benefits of diamond and other ultra-hard material properties. Industries have made great strides by increasing productivity, reducing manufacturing & operating costs and implementing new technology. Whether it's the processing of stone from huge quarries, drawing wire, providing laser windows, shaping wood and laminates, grinding glass, texturing the close tolerances for the discs in electronic hard drives, providing medical breakthroughs in prosthetics or nanotechnology, growing large single crystals or coating base materials with diamond film, superabrasives are industry's choice for myriad solutions and cost effective processes. Much of this explosive growth has occurred in the last three decades. It is vital for continued prosperity that every company and individual, working or doing business in this burgeoning industry, devotes more time and resources to user education and application development.

INTERTECH 2013 has the unique position of global sponsorship and participation, bringing together technical and commercial experts with research and academic scientists to discuss applications, technical innovations and industry trends that will shape the future. **INTERTECH 2013** will serve as an international forum for all participants to meet and focus on specific issues related to superabrasive use with common goals of increased productivity, new technological development and reducing overall business costs.

Photos of Baltimore for INTERTECH 2013 courtesy of Baltimore Convention & Tourism Bureau.

Mission Statement

"**INTERTECH** conferences will serve as an international forum on new technology for diamond, cubic boron nitride (cBN) and other related materials classified as superabrasive or ultra-hard materials. **INTERTECH** will educate attendees and disseminate research and application development information covering these materials. **INTERTECH** will host all global manufacturing, technical, research, academic, commercial and end user organizations to share scientific breakthroughs and innovations. **INTERTECH** will adhere to the mission of blending technical innovation, research and product development with the ultimate focus on end user application."

Key Conference Features

- Technical and application presentations from all areas of interest to evaluate growth opportunities of diamond, cBN and other ultra-hard materials with a focus on performance and productivity
- Conference focus in Aerospace and Defense industries and their leading edge manufacturing material requirements
- Outstanding venue at the Hyatt Regency Inner Harbor in Baltimore, Maryland USA, a great location with excellent weather in May of 2013. Baltimore is an historical city less that a one hour drive to Washington D.C. USA!
- A unique occasion to interact with technical and business leaders, scientists, peers, suppliers, academia, manufacturers, tool fabricators, machine tool builders and end users within the structure of a Global Technical Conference
- Reception to meet other attendees, presenters and business leaders
- Opportunity to hear experts from diverse technologies and to personally interact with all presenters and attendees
- Tabletop displays and exhibitions from leading companies in the industry with time to discuss products and solutions
- Keynote speakers from major Aerospace and Defense companies
- Educational Session will be offered for users, engineers, sales, marketing and all others wanting to learn about the superabrasives industry, products and applications. This session is especially designed by the leading companies in the industry on superabrasive materials, tooling, research and applications. At INTERTECH 2011 when this was introduced, over 80 attendees praised this session as the "Best educational program they had ever seen on superabrasives."
- Chance to evaluate emerging technologies and materials for your own application situations
- Three full days of technical and commercial papers
- An open evening where attendees can take full advantage of the splendid sights, entertainment, dining and tourist attractions of the magnificent city of Baltimore
- Opportunity to meet with leaders from major research companies, suppliers, end users and peers for networking and discussion
- Three days of wonderful meals, camaraderie and conversation
- All papers considered for publication in Finer Points Magazine
- Complimentary Proceedings to all attendees ... And much more!

INTERTECH Administrative Details

NO SMOKING PLEASE

Smoking is prohibited in all meeting facilities.

CLIMATE FOR BALTIMORE, MARYLAND USA IN MAY

Average Temperature: 63°F (17.2°C)
Average Low Temperature: 52 °F (11°C)
Average High Temperature: 74°F (23°C)
Evenings in May are cool and could require a light jacket or sweater.

CONFERENCE DRESS

Recommended dress for the conference attendees is business casual. Gentlemen presenters are asked to wear a jacket and ladies suitable business attire. Rooms are air conditioned, so a sweater or a jacket is recommended.

SPECIAL ASSISTANCE

Prior to the meeting, please call or email IDA Headquarters (Tel: 614-797-2265, email: tkane-ida@insight.rr.com) if any special assistance is required for any attendee. On-site, guests requiring special assistance should contact a member of the **INTERTECH 2013** staff at the Conference Desk.

SESSION RECORDINGS & PHOTOGRAPHY

Due to proprietary information and as a courtesy to our speakers, no audio and video recording or photography of the presentations may be made without the prior written permission of the Industrial Diamond Association of America (IDA). All **INTERTECH 2013** presentations are copyrighted to the Industrial Diamond Association of America and the IDA reserves the right to prohibit the recording of presentations or photography even if it is intended for personal use.

INTERTECH 2013* Event Snapshot

Baltimore, Maryland USA ● May 6-8, 2013

MONDAY, MAY 6

CONTINENTAL BREAKFAST 7:00-8:00 am • REGISTRATION 8-12 Noon

8:00-8:45 am – Keynote Speaker from NASA

MORNING

8:45-12 Noon	8:45-12 Noon
APPLICATIONS of Diamond, Cubic Boron Nitride (cBN) & Other ULTRA-HARD MATERIALS • Designs for Aerospace Applications • Machining & Grinding Exotic Materials	ADVANCEMENTS IN SUPERABRASIVE MATERIALS • Diamond & Cubic Boron Nitride Mesh • Polycrystalline Diamond & Cubic Boron Nitride • CVD Diamond and cBN

12 Noon - 1:00 pm LUNCH

1:00 -1:45 pm – Keynote Speaker from Major NASA Supplier/Manufacturer

AFTERNOON

1:45 pm - 4:45 pm	1:45 pm - 4:45 pm
PROCESSING NEW MATERIALS TO TIGHTER TOLERANCES FOR AEROSPACE & DEFENSE • Superfinishing • Fine Lapping • Double Disc Grinding • Other	SUPERABRASIVE CHALLENGES FOR INDUSTRY • Machine Design • Grinding Wheel Development • Cutting Tool Advancements

Evening

6:00 pm - 8:00 pm
WELCOME RECEPTION – Hors d'oeuvres & Cocktails

TUESDAY, MAY 7

CONTINENTAL BREAKFAST 7:00-8:00 am • REGISTRATION 8-12 Noon

8:00-8:45 am – Keynote Speaker from Major Aerospace Supplier/Manufacturer

MORNING

8:45-12 Noon	8:45-12 Noon
ADVANCEMENTS AND APPLICATION OF AEROSPACE MATERIALS • Carbon Based • Titanium • Thermal Sprays • Superalloys • Composites • Ceramics	ACADEMIA & RESEARCH • New Crystal Development • Polycrystalline cBN • Polycrystalline Diamond • CVD Diamond • Optics • Electronics • Medical

12 Noon - 1:00 pm LUNCH

1:00 -1:45 pm – Keynote Speaker from Major Global AEROSPACE Technical/Research Organization

AFTERNOON

1:45 pm - 4:45 pm	1:45 pm - 4:45 pm
APPLICATION CASE HISTORIES FOR SUPERABRASIVES ON AEROSPACE COMPONENTS • Repair/Refurbishing • Airframes • Turbine Buckets • Jet Engines • Stablizers • Landing Gear	AUTOMOTIVE, ELECTRONICS, MEDICAL AND OTHER INDUSTRIES USING SUPERABRASIVES • Grinding • Machining • Drilling • Finishing • Machine Tools

Evening

6:00 pm - 11:00 pm
OPEN EVENING or OPTIONAL DINNER CRUISE EVENT

WEDNESDAY, MAY 8

CONTINENTAL BREAKFAST 7:00-8:00 am • REGISTRATION 8-12 Noon

8:00-8:45 am – Keynote Speaker of Science and Research

MORNING

8:45-12 Noon	8:45-12 Noon
CONCURRENT EDUCATIONAL SESSION • Superabrasive History • Abrasive Types & Properties • Diamond & cBN Grinding	CONSTRUCTION, MINING, ENERGY, OPTICS, MEDICIAL, WIRE AND OTHER INDUSTRIES USING SUPERABRASIVES • Prosthetics • Wear Parts • Sawing • Drilling

12 Noon - 1:00 pm LUNCH

1:00 -1:45 pm – Keynote Speaker from Naval Research

AFTERNOON

1:45 pm - 4:45 pm	1:45 pm - 4:45 pm
CONCURRENT EDUCATIONAL SESSION • Superabrasive Machining & Drilling PCD & PCBN • Abrasive Types & Properties • Non Abrasive Uses	ENERGY, OPTICS, MEDICAL, WIRE, AND OTHER INDUSTRIES USING SUPERABRASIVES • Wire Drawing • Polishing • Knives • Gears • Specialty Machine Tools

Evening

OPEN EVENING
* PROGRAM SUBJECT TO CHANGE DEPENDING ON CONFIRMED SPEAKERS, SELECTED ABSTRACTS and PAPERS

The Industrial Diamond Association of America Announces INTERTECH 2013 May 6, 7 & 8

INTERTECH 2013

An International Technical Conference on Diamond, Cubic Boron Nitride and their applications.

www.intertechconference.com

Hyatt Regency Baltimore Harbor
BALTIMORE, MARYLAND USA
May 6, 7 & 8, 2013

INTERTECH 2013 WILL BE THE FEATURED CONFERENCE FOR NEW TECHNOLOGY AND APPLICATION DEVELOPMENT OF SUPERABRASIVES AND SUPER-HARD MATERIALS FOR AEROSPACE & DEFENSE APPLICATIONS

INTERTECH 2013 is the leading International Technical Conference on industrial diamond, cubic boron nitride, polycrystallines, CVD diamond, Nanodiamond and other materials classified as superabrasives and ultra-hard materials. **INTERTECH 2013** will feature leading experts representing international suppliers, manufacturers, research facilities, academia, end-users, machine tool builders and the scientific community with a focus on Aerospace & Defense industry applications. These areas were selected as our focus due to the high level of exotic materials (titanium, superalloys, high silicon aluminum, ceramics, etc.) used in the manufacture of aerospace and defense components. Those materials can only be effectively machined and ground with superabrasive tooling."

COMPREHENSIVE EDUCATION SESSION

"Superabrasive Materials, Principles & Applications"

INTERTECH 2013 will once again offer, a one-day session covering the history, characteristics and proper application for diamond and cubic boron nitride materials. This updated session will address the essentials of superabrasives for those new to the industry or those who wish to become more familiar with superabrasive materials and applications.

BALTIMORE HARBOR IS A MAJOR ATTRACTION ... This sensational event will be held in Baltimore, Maryland USA at the Hyatt Regency Inner Harbor, conveniently located in the centerpiece of downtown Baltimore. Attendees of **INTERTECH** will want to set some time aside to visit Washington DC the capital of the United States. Less than an hour drive makes Washington a major attraction for attendees. Famous for its historical buildings, the Smithsonian Institute, memorials, statues and shrines, no trip to this vicinity would be complete without a tour of Washington DC for an amazing once in a lifetime experience. **INTERTECH 2013** will be a rewarding technical experience complimented by a trip to the world-famous and historic cities of Baltimore and Washington DC that makes it a "have to attend" event!

Photos of Baltimore for INTERTECH 2013 courtesy of Baltimore Convention & Tourism Bureau.

CALL FOR PAPERS!

YOU CAN BE A PART OF THIS EXCITING EVENT! ... We are now soliciting commercial and technical papers of approximately 30-45 minutes in length that address the research of these super-hard materials as well as the dynamics and application of superabrasive systems in Aerospace and other industries as well (see: Areas of Consideration) with a focus on new technology, tooling, workpiece materials, machines and applications related to increased **PRODUCTIVITY** and **PERFORMANCE**. Consideration for papers is being made at this time and abstracts are now being accepted; contact us today to be considered. This will be the most comprehensive event ever held on superabrasive materials for Aerospace & Defense and similar industries!

AREAS OF CONSIDERATION FOR PAPERS WITH A MAJOR FOCUS ON SUPERABRASIVES USED IN AEROSPACE & DEFENSE APPLICATIONS

PART & COMPONENT MATERIALS
- Ceramics
- Composites
- Glass
- Superalloys (Rene, Hastelloy, Waspaloy, Inconel, Haynes alloys, Incoloy, others)
- High Silicon Aluminum
- Thermal Sprays
- Titanium
- Other

AEROSPACE
- Manufacturing
- Rebuilding
- Optics
- Other

DEFENSE
- Naval Systems
- Arms & Armament
- Parts & components
- Vehicles
- Rebuilding
- Other

MACHINE TOOLS
- Development
- Innovations
- Advancements
- Superabrasive

TOOLING
- Grinding Wheels
- Cutting Tools
- Drill Bits

RESEARCH & DEVELOPMENT
- New Crystals & Abrasives
- New Coatings
- Bond Development
- Testing/Gauging
- Tool Fabrication
- Materials
- Tooling
- Application Development
- Film (CVD & PVD)
- Magnetorheological Finishing
- Electrolytic In-process Dressing (ELID) Mirror-Surface Grinding
- Nanotechnology

OTHER NEW TECHNOLOGY & APPLICATION DEVELOPMENT

OTHER INDUSTRIES AND TOPICS FOR CONSIDERATION

AUTOMOTIVE
- Manufacturing

CONSTRUCTION/ HIGHWAY
- Concrete Aggregates
- Highway/Runway
- Renovation
- Block Grinding/Polishing

ELECTRONICS
- Disc Texturing
- Wafer Mfg.
- Polishing
- Optic Windows
- Semiconductors
- Heat Sinks

EMERGING TECHNOLOGY
- CVD Diamond
- Nanodiamond
- New Crystals
- Coatings

GLASS
- Lens Generation
- Polishing
- Pencil Edging

MACHINE TOOLS
- Advancements
- Superabrasive Adaptation

MEDICAL
- Surgical Knives
- Prosthesis Fabrication

MINING/DRILLING
- Drills & Bits
- Application

OPTICS
- Polishing
- Lens Generation

RESEARCH & DEVELOPMENT
- HPHT Technology
- Pressing Equipment

TOOLING
- Grinding Wheels
- Cutting Tools
- Sawblades
- Drill Bits

WEAR PARTS
- Rests
- Anvils
- Nozzles

WIRE DRAWING
- Single Crystal
- PCD
- Manufacturing

WOODWORKING
- Hard Woods
- Fiberboard
- Laminates
- Composites

OTHER NEW TECHNOLOGY & APPLICATION DEVELOPMENT

WATCH FOR INTERTECH 2013 ON-LINE

As you can see by the areas for paper consideration, diamond and cubic boron nitride are not just being used as abrasives in traditional applications. Today, superabrasives and ultra-hard materials are making inroads in electronics, medical, cosmetics and literally every other industry where the characteristics of diamond and cubic boron nitride can affect performance or provide higher strength or new capabilities. As an **INTERTECH** attendee you will learn how these new products and applications are being developed, where super-hard materials are being used and how you can apply these systems in new and innovative ways.

Visit the **INTERTECH 2013** website: www.intertechconference.com for additional information on:

- CONFERENCE REGISTRATION
- SESSIONS & SCHEDULES
- SPEAKERS & TOPICS
- ORGANIZING COMMITTEE CONTACTS
- ABSTRACT SUBMISSION
- PAPER GUIDELINES
- TABLETOP DISPLAYS
- LOCATION & TRAVEL
- VISAS & INVITATION LETTERS
- KEYNOTE ADDRESSES

On-Line submission of abstracts is now available at www.intertechconference.com. If you wish to present a paper, you can also send a one or two paragraph abstract of your paper topic via email, fax or regular post to: Terry M. Kane, Chairman • INTERTECH 2013 • P.O. Box 29460 • Columbus, Ohio 43229 • Telephone: 614-797-2265 • Fax: 614-797-2264 • e-mail: tkane-ida@insight.rr.com

ABSTRACTS ARE CURRENTLY BEING ACCEPTED THROUGH MARCH 1, 2013

We will reply to all submissions. Come join us! **INTERTECH 2013** has the tradition of being the most comprehensive event held on superabrasives and ultra-hard materials.

(PLEASE PRINT CLEARLY AND FILL OUT COMPLETELY. *INCLUDE ABSTRACT*)

Name: _____

Title: _____

Date: _____

Company: _____

Address: _____

City: _____ Country: _____

State/Province: _____ Zip/Postal Code: _____

Phone: _____ Fax: _____

Email: _____

Website: _____

NEWS and notes

NOT JUST PATRIOTIC, U.S. MANUFACTURING MAY BE SMART

According to National Public Radio (http://ktep.org/post/not-just-patriotic-us-manufacturing-may-be-smart), the advantages to making products in the U.S. are starting to stack up and companies are taking notice. Among them are Apple, which announced Thursday it plans to start producing some of its computers here instead of in China, and General Electric is making big investments at home. As the December issue of The Atlantic reports, companies are seeing real economic advantages to "insourcing," a reversal of the outsourcing trends that sent U.S. manufacturing overseas. General Electric which opened Appliance Park in Louisville, Ky., in 1951, has been making some changes there. The company announced an $800 million investment in jobs, products and the manufacturing process itself.

WORLDWIDE SUPERABRASIVES, LLC (WWSA), A GLOBAL LEADER IN THE MANUFACTURING AND DISTRIBUTION OF INDUSTRIAL DIAMOND AND CUBIC BORON NITRIDE (CBN) PRODUCTS, ANNOUNCES NEW PRODUCT CATALOG

In this design, WWSA presents their entire industrial diamond and cubic boron nitride product offerings along with detailed photos, product descriptions and case studies. This latest edition of the WWSA catalog also offers the following spreads: - WWSA and BESCO Joint Venture - Quality Assurance Program - Customer Service Model - Manufacturing Processes - Comparative Coating Analysis - WWSA World Class Metallic Coatings. Email info@worldwidesa.com or call 954-828-9650. Catalog can be viewed at www.worldwidesa.com

ELEMENT SIX, A WORLD LEADER IN SYNTHETIC DIAMOND SUPERMATERIALS, TO RECRUIT 60 NEW SCIENTISTS AND TECHNICIANS FOR ITS NEW GLOBAL INNOVATION CENTRE NEAR OXFORD IN THE UK

Element Six is recruiting up to 60 materials and physical scientists, engineers and technicians for its new Global Innovation Centre, currently under construction near Oxford in the UK. The new £20m centre, due to open in spring 2013, will be the world's largest and most sophisticated synthetic diamond supermaterials R&D facility. Element Six, a member of the De Beers Group of Companies, is recruiting R&D project managers and scientists, as well as technical and support roles such as technologists and lab technicians. Globally, Element Six is at the forefront of the synthetic diamond industry and has a successful commercial track record working with world-leading partners to develop extreme materials for a wide range of applications including aerospace, automotive, oil and gas drilling and semiconductors. http://www.e6.com

BOEING PROJECTS $820 BILLION MARKET FOR 7,290 NEW AIRPLANES IN NORTH AMERICA

Carriers will take delivery of 7,290 new airplanes over the next 20 years at a market value of $820 billion. The fleet will grow from 6,650 airplanes today to about 8,830 airplanes by 2031. Boeing forecasts single-aisle airplanes will grow to 69 percent of the total by 2031. High fuel prices are intensifying the need for new fuel-efficient airplanes, prompting several airlines in the United States to accelerate their fleet renewal programs. Both the Next-Generation 737 and the 737 MAX offer significant advantages in improved capabilities, fuel efficiency and maintenance costs, as well as enhanced environmental performance. Long-haul international traffic is forecasted to grow at an annual rate of approximately 5 percent. The international growth is primarily driven by anticipated passenger traffic to Southwest Asia, China, the Middle East, Africa and South America. More information on forecast can be found at: http://www.boeing.com/commercial/cmo/north_america.html

INTERTECH 2013 ORGANIZING COMMITTEES

Every **INTERTECH** we strive to improve all aspects of the conference. This year we not only will be offering the outstanding education session along with our outstanding technical sessions, but we also have improved the very focus of the conference by structuring the program around superabrasive materials used in Aerospace and Defense. To meet this challenge we have restructured the organizational committees for **INTERTECH**. This year the **INTERTECH** and the Industrial Diamond Association of America (IDA) are proud to introduce the three Committees that are ultimately responsible for putting together **INTERTECH 2013**. The three committees are the STEERING & PLANNING COMMITTEES and TECHNICAL ADVISORY COMMITTEE. These committees have been working together to produce the best combination of presentations and contributors to represent both the Technical and Practical Application sides of the superabrasive industry.

The Steering & Planning Committees change each **INTERTECH** and consist of notable business leaders from across the industry. They have dedicated their time and efforts to see that **INTERTECH 2013** is a success on every level from the promotional materials, venue & speakers to the program, tabletop exhibits and daily events. Their efforts constitute years of planning and coordination to bring about this International Event.

Photos courtesy of Boeing

STEERING COMMITTEE

Photos courtesy of Lockheed Martin, Sikorsky Hellicopter, Pratt & Whitney and Northrop Grumman

- **Troy Heuermann**, 3M ABRASIVE SYSTEMS DIVISION
- **David L. Edwards**, ACTION SUPERABRASIVE PRODUCTS, INC.
- **Edward E. Galen**, CINETIC LANDIS CORP - CITCO PRODUCTS
- **Joseph M. Connolly**, ELEMENT SIX
- **Stephen Griffin**, ENGIS CORPORATION
- **David Spelbrink**, LIEBER & SOLOW, COMPANY
- **Keith Reckling**, NATIONAL RESEARCH COMPANY
- **Aaron Nolan**, SUMITOMO ELECTRIC CARBIDE, INC. MATERIALS GROUP
- **Scott Ries**, VOLLMER OF AMERICA CORP.
- **Ben Williams**, FACT USA
- **R. Christian Winkel**, WORLDWIDE SUPERABRASIVES
- **David Simpson**, WORLDWIDE SUPERABRASIVES

INTERTECH Chairman: **Terry M. Kane**, Executive Director

INTERTECH Meeting Planner: **Kathy A. Kane**, Business Manager, INDUSTRIAL DIAMOND ASSOCIATION OF AMERICA, INC.

PLANNING COMMITTEE

- **David Spelbrink**, LIEBER & SOLOW, COMPANY
- **Scott Ries**, VOLLMER OF AMERICA CORP.
- **Lucas Haugen**, ELEMENT SIX
- **Erik Koik**, sp3 CUTTING TOOLS, INC.
- **Julie Griffin**, PRECISION EFORMING

INDUSTRIAL DIAMOND ASSOCIATION OF AMERICA

MEMBER COMPANIES

Contact an IDA Member Company for superior products and services related to the superabrasives and ultra-hard materials industry. IDA Members follow a strict code of ethics to guarantee quality and dependability.

Always buy from an IDA Member!

3M Abrasive Systems Division
Website: www.mmm.com

ABC & Warren/Amplex Superabrasives
Website: www.saint-gobain.com

Abrasive Technology
Website: www.abrasive-tech.com

Abrasivos Austromex, S.A. DE C.V.
Website: www.austromex.com.mx

Action Superabrasive Products, Inc.
Website: www.actionsuper.com

Advanced Abrasives Corporation
Website: www.advancedabrasives.com

American Superabrasives Corp.
Website: www.diamonds-abrasive.com

Anco Industrial Diamond Corp.
Website: www.ancodiamond.com

Apogee Precision Parts
Website: www.natchain.com

Asahi Diamond America
Website: www.asahidiamond.com

Bogimac NV-SA
Website: www.bogimac.com

Bruce Diamond Corp.
Website: www.brucediamond.com

Cdp Diamond Products Inc.
Website: www.cdpdiamond.com

Chardon Tool & Supply Co., Inc.
Website: www.chardontool.com

Cinetic Landis Corp - Citco/Gardner Abrasives
Website: www.citcodiamond.com

Continental Diamond Tool Corp.
Website: www.cdtusa.net

Crystallume Engineered Diamond Products
Website: www.crystallume.com

Darmann Abrasive Products
Website: www.darmann.com

Delaware Diamond Knives Inc.
Website: www.ddk.com

Desmond-Stephen Mfg Co.
Website: www.desmond-stephan.com

Dev Industrial Corp.
Website: www.dev-group.com

Diamond Associates
Website: www.abrasivesmall.com

Diamond Industrial Tools
Website: www.todit.com

Diamond Innovations
Website: www.diamondinnovations.com

Dianamic Abrasive Products Inc.
Website: www.dianamic.com

Eastwind Lapidary, Inc.
Website: www.eastwinddiamondabrasives.com

Element Six
Website: www.e6.com

Eloquence Corporation
Website: www.corporationwiki.com/New-York/New-York/eloquence-corporation/36629788.aspx

Engis Corp.
Website: www.engis.com

FACT USA
Website: www.wmstrading.com
Website: www.factdiamond.com

Fort Wayne Wire Die Inc.
Website: www.fwwd.com

Greenlee Diamond Tool Co.
Website: www.greenleediamond.com

Iljin USA, Inc.
Website: www.iljindiamond.com

Industrial Diamond Laboratories Inc.
Website: www.industrialdiamondlabs.com

K & Y Diamond Ltd
Website: www.kydiamond.ca

Lach Diamond, Inc.
Website: www.lachdiamond.com

Lieber & Solow Co.
Lands Superabrasives Co.
Website: www.lieberandsolow.com,
Website: www.landssuperabrasives.com

Lunzer Technologies, Inc.
Website: www.lunzer.com

Megadiamond Inc.
Website: www.megadiamond.com

Michael Werdiger, Inc.
Website: www.michaelwerdiger.com

Microdiamant AG/Mypodiamond Inc.
Website: www.microdiamant.com
Website: www.mypodiamond.com

Morgan Advanced Materials & Technology
Website: www.morganplc.com

Nanomech
Website: www.nanomech.biz

National Research Co.
Website: www.nationalresearchcompany.com

Niabraze Corp.
Website: www.niabraze.com

Noritake Co Inc.
Website: www.noritake.com

Pinnacle Abrasives
Website: www.pinnaclesf.com

Precision Eforming
Website: www.precisioneforming.com

Protech Diamond Tool Inc.
Website: www.protechdiamondtoolsinc.com

Radiac Abrasives Inc., A Tyrolit Company
Website: www.radiac.com

Saint-Gobain Surface Conditioning Group (Saint-Gobain Ceramic Materials)
www.innovativeorganics.com

Scio Diamond Technology
Website: www.sciodiamond.com

sp3 Cutting Tools Inc.
Website: www.sp3cuttingtools.com

sp3 Diamond Technologies
Website: www.sp3diamondtech.com

Spec Tool
Website: www.spec-tool.com

Standard Die & Fabricating Inc.
Website: www.standarddie.com

H.C. Starck, Inc.
Website: www.hcstarck.com

Sumitomo Electric Carbide Inc. Materials Group
Website: www.sumicarbide.com/diamondgroup

Superabrasives Inc.
Website: www.superabrasives.com

Syntech Abrasives Inc.
Website: www.syntechabrasives.com

Tomei Corp. of America
Website: www.tomeidiamond.com

US Synthetic Corporation
Website: www.ussynthetic.com

Ulbrich Stainless Steels & Special Metals, Inc.
Website: www.ulbrich.com

Vollmer of America Corporation
Website: www.vollmer-us.com

Wemex Superabrasivos, S. DE R.L. DE C.V.
Website: www.wemex.com.mx

Winterthur Wendt USA
Website: www.winterthurtechnolgy.com

Worldwide Superabrasives, LLC
Website: www.worldwidesa.com

Zhongnan Diamond Co., Ltd
Website: www.diamond-zn.com

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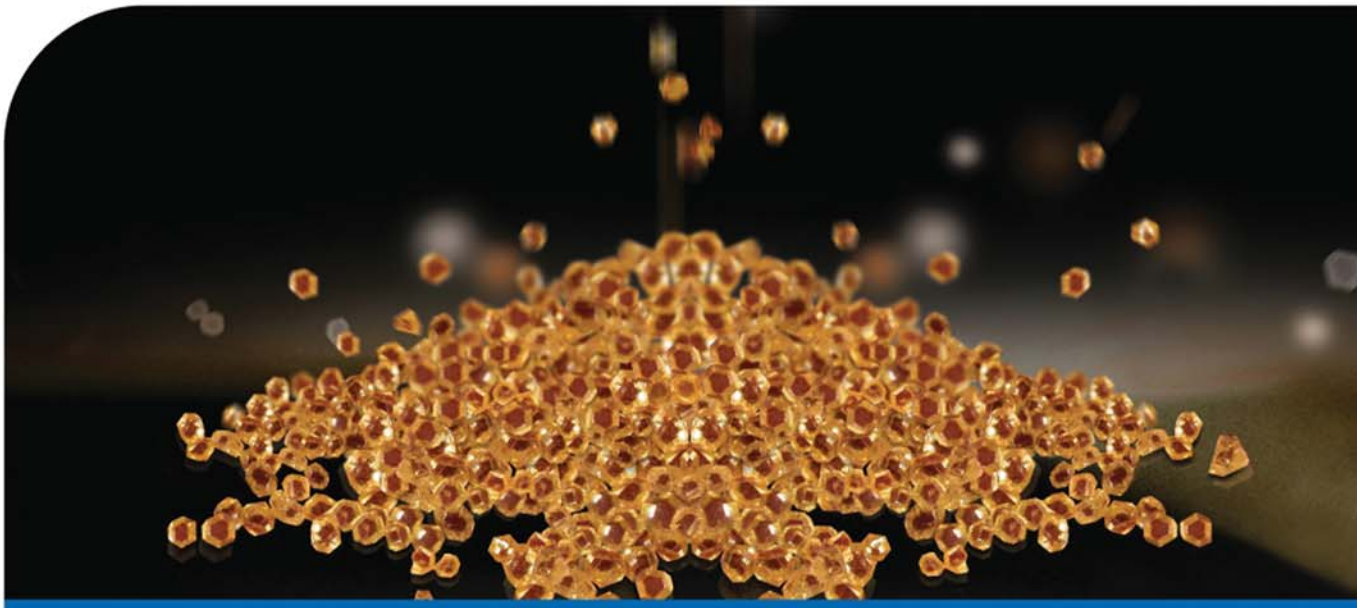

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- Best Solution for Longer Tool Life & Cutting Performance
- Excellent Thermal & Chemical Stability
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IMD (Metal Bond)	IMD series are engineered to achieve high material removal rate as well as excellent surface finishing, especially for metal bond system.
IRD (Resin Bond)	IRD series show optimum performance in all bond systems from phenolic to polyimide resin. 30-56wt% cluster and spiky type Ni coating, as well as 50wt% Cu coating are available.
IBN (cBN)	IBN series are designed for grinding hardened ferrous and superalloy materials. IBN can be applied with a variety of bond systems. Ti and Ni coating are available.
IMP (Micron Powder)	IMP series are manufactured from premium quality raw materials by cutting edge micronizing techniques (tight PSD, shape and surface control).
ISD (Saw)	ISD series are available from bloky shape to angular shape to meet all requirements in stone and construction industries. Various Ti based coatings are available.
IPD (Premium Saw)	IPD series with the highest strength, thermal stability and micro-fracturing property is created by unique synthesizing technologies for the high end market in sawing and drilling. Various Ti based coatings are available.

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Tungsten carbide rods and blanks are materials for machining tools such as endmills, drills and reamers in tooling as well as micro drills such as drill bits and router bits for electronics.

01 | Excellent wear resistance and toughness by ultra fine WC grain sizes

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ILJIN Polycrystalline Diamond for non-ferrous materials

- Application(Non-ferrous materials) : Al-Si Alloy, Copper Alloy, Carbide, Graphite, Wood, Plastics etc.
- Available Grades : CXL, CM, CMW, CFW, CUF, XUFII

ILJIN Polycrystalline Cubic Boron Nitride for ferrous materials

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[ILJIN USA INC] 652 N. Sam Houston Parkway E. Suite 140, Houston, TX77060 Tel. +1-281-448-5111 Fax. +1-281-448-5114

INTERTECH 2013 VENUE

http://baltimore.hyatt.com/hyatt/hotels/index.jsp

In the continuing effort to maintain a venue of interest and attraction for attendees, INTERTECH 2013 is scheduled for Monday May 6, Tuesday May 7 & Wednesday May 8, 2013 at The HYATT REGENCY BALTIMORE ON THE INNER HARBOR in Baltimore Maryland USA

Nestled squarely in the heart of downtown, this Four-Diamond Inner Harbor hotel offers a luxury gateway to this enchanting waterfront town. See all the breathtaking sights of the Inner Harbor, or explore the wonders of the sea at the National Aquarium. Savor unique menu items from across the United States at Bistro 300 or enjoy the modern outdoor pool with sundeck, jogging track, basketball court, tennis courts and a complete Fitness Center with 24 hour access. The crown jewel of downtown Baltimore is the Inner Harbor. The vibrant and beautiful waterfront is home to dozens of shops, eateries and attractions, all within walking distance of Hyatt Regency. In just a few city blocks, you can explore wildlife from the deep and down under at the National Aquarium, have a 360-degree IMAX experience at the Maryland Science Center, or wander through the pop culture icons of your past at the new Geppi's Entertainment Museum. There is a staggering array of restaurants, eateries and food vendors scattered throughout Harborplace and the surrounding area. Stylish guestrooms, dazzling meeting facilities and legendary service make The Hyatt Regency Baltimore Harbor the preferred choice for **INTERTECH 2013** ...

HOTEL RESERVATIONS FOR INTERTECH 2013

https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=3411734

Excellent technical presentations, business opportunities with global executives and a visit to one of the world's most interesting and exciting cities, INTERTECH 2013 is an event you will value for years to come.

DMT LAUNCHES NEXT GENERATION DIAFOLD® SHARPENERS

Feature New Eco-friendly Packaging & Redesigned Handles

Marlborough, MA – The best-selling product line of the world's finest diamond sharpeners is getting a makeover. The Diafold's new eco-friendly packaging and redesigned handles improve both sustainability and convenience without sacrificing performance or price. DMT Diamond Machining Technology pioneered the folding diamond sharpener with its original Diafold model in 1986. It quickly became the company's most popular product. Over the years, DMT has expanded the line and grit selections, but this marks the first product and packaging redesign. Products in the revamped Diafold line will be available for purchase beginning January 15, 2013. All DMT sharpeners are proudly Made in the USA. ***Visit www.dmtsharp.com for more information and purchasing.***

SUNNEN PRODUCTS INTRODUCES NEW SERVOMOTOR & DRIVE TECHNOLOGY

Under the hood of its three primary vertical honing platforms, bringing additional capabilities, speed, accuracy and safety to the machines. The various new models have upgraded capabilities such as selectable tool-feed, constant crosshatch and faster automatic bore detection for reduced cycle times. The SV-2000 and SV-2400 machines are already in production, while remaining SV-400 and 500 models will be replaced later this year. The range of machines can process bores ID's from 3 mm to 300 mm, typically found in parts such as fuel injectors, piston pumps, gun barrels, hydraulic components, engine/compressor cylinders, diesel cylinder liners, landing gear and similar. Other new capabilities on the upgraded models include whole-bore, constant crosshatch angle. Constant crosshatch eliminates the "flattening" of the crosshatch angle at stroke-reversal points, a feature required by some engine manufacturers and MilSpec parts. ***For additional information, contact: Sunnen Products Company, 7910 Manchester Rd., St. Louis, MO 63143. Tel: 1-800-325-3670; fax: 314-781-2268 or email sales@sunnen.com.***

RENISHAW INTRODUCES SURFACE FINISH MEASUREMENT FOR CMMS WITH NEW PROBE FOR REVO® FIVE-AXIS SYSTEM

With a measurement capability of 6.3 to 0.05 Ra, the SFP1 surface finish probe makes the CMM a "single platform" metrology system. It eliminates the need for hand-held surface measurement devices or transporting parts to a dedicated surface measuring machine, reducing labor costs and inspection lead times. The system allows automated switching between dimensional measurement and surface finish measurement, with the analysis contained in a single report. ***Visit www.renishaw.com/probes***

GENIUS VISE IS SMARTEST NEW WORKHOLDING DEVICE FOR PRECISION 5-AXIS MILLING

OML's new Genius 5-axis vise turns workholding concepts on their head with a unique design that maximizes clamp force at the top of the jaws by pulling them closed at the top with a collapsing lead screw, while holding the bottom of the jaws in place with an opposing force screw. Available from Lexair Inc., the dual-screw, pull-to close Genius vise eliminates the tendency of traditional vise jaws to splay apart at the top, requiring machine operators to hammer a workpiece down against the stops as the jaws close and clamp force increases. By holding the vise jaws apart at the bottom and pulling closed at the top, the Genius vise actually pulls the workpiece down against the stops as closing force increases. ***For details, see omlusa.com***

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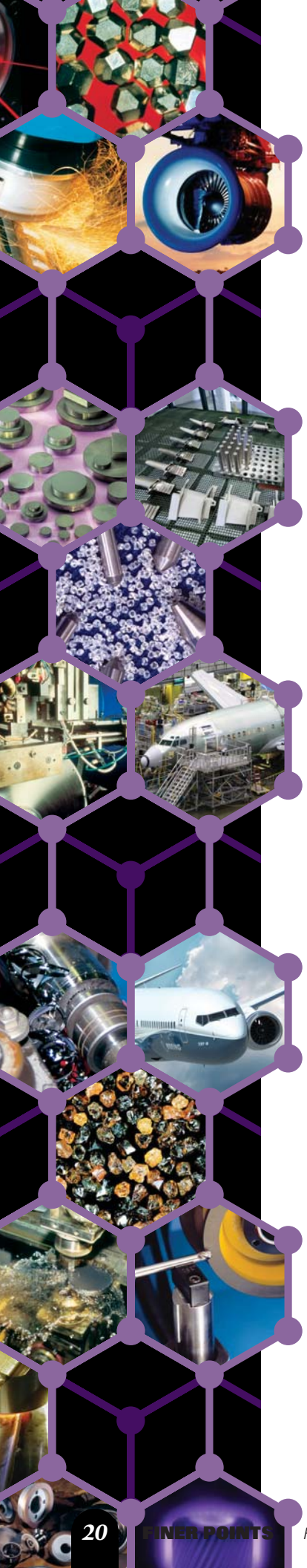
TIGHTER THAN INDUSTRY STANDARD TOLERANCES
13 LOCATIONS WORLDWIDE



INTERTECH Conference Registration Form

FEES - INCLUDES ACCESS TO ALL SESSIONS, EXHIBIT AREAS, MEALS, WELCOME RECEPTION AND ELECTRONIC CONFERENCE PROCEEDINGS

Full Conference – $1295 USD – Early payment (by March 1, 2013) – $1245 USD
IDA of America Member – $1195 USD – Early payment (by March 1, 2013) – $1145 USD
Speakers/Presenters – $ 995 USD – Early payment (by March 1, 2013) – $ 945 USD

Name: _____ Title: _____

Company: _____

**5% Discount for any company with 5 or more attendees (include forms with additional names)*

☐ Attendee ☐ Speaker ☐ IDA America Member

Address: _____

City: _____ State: _____

Zip/Postal Code: _____ Country: _____

Phone: _____ Fax: _____

E-Mail: _____

SPECIAL DISCOUNTS AND CONSIDERATION:

☐ **END USER**, classified as those companies strictly "USING" superabrasives in the manufacture of finished components- $795 USD

☐ **STUDENT**, Registered full time towards a degree. Must be accompanied by a signed letter from Department head verifying status - $795 USD

☐ **GUEST of a registered attendee wishing to attend just the Monday's Welcome Reception on May 6, - $125 USD.** Number of Guest Reservations _____

Spouse/Guest Name(s):_____

☐ **EDUCATION SESSION, A Person may attend *just* the Wednesday May 8, Fee - $395 USD (No other session or event privileges)**

Name: _____ Title: _____

Company: _____

☐ End User ☐ Student ☐ Guest ☐ Education Session

Address: _____

City: _____ State: _____

Zip/Postal Code: _____ Country: _____

Phone: _____ Fax: _____

E-Mail: _____

TOTAL AMOUNT TO BE CHARGED _____ USD

METHOD OF PAYMENT

Check the method of payment and fill in the credit card information, if applicable. All checks must be paid in US funds and drawn on a U.S. bank.

☐ Check - Payable to: Industrial Diamond Association of America
☐ Wire Payment - Contact IDA Headquarters by email: tkane-ida@insight.rr.com or Fax: 614-797-2264 to receive banking transfer information.

☐ CREDIT CARD ☐ VISA ☐ MasterCard ☐ American Express

Card Number: _____

Expiration Date: _____ **TOTAL AMOUNT TO BE CHARGED _____ USD**

Name As It Appears On Card: _____

Credit Card Billing Address:

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Country: _____

FAX OR MAIL COMPLETED FORM TO:
INTERTECH 2013 Registration • P.O. Box 29460 • Columbus, Ohio 43229 USA • Fax: 614-797-2264
OR REGISTER ON-LINE AT WWW.INTERTECHCONFERENCE.COM

QUESTIONS? Call: 614-797-2265 • **Email INTERTECH Chairman:** Terry Kane at: tkane-ida@insight.rr.com
or **INTERTECH Meeting Planner/ Business Manager:** Kathy Kane at: kathykgc@insight.rr.com

TABLETOP RESERVATION FORM

Another special feature of the INTERTECH 2013 technical conference will be the inclusion of Technical/Product tabletop displays by participating companies. There will be a LIMITED number of spaces around the conference foyer and break area made available to companies that wish to exhibit.

Tabletops will be displayed at INTERTECH in the Foyer Area of Hyatt Regency Baltimore Inner Harbor.

Due to the limited space, reservations can only be guaranteed when the completed form and payment are received at IDA Headquarters or completed on-line. Additional companies seeking space will be put on a waiting list as received.

These spaces fill up early so make your reservation as soon as possible!

PLEASE PRINT CLEARLY AND FILL IN COMPLETELY:

First Name: _____ Last Name: _____

Title: _____ Company: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Country: _____

Phone: _____ Fax: _____

Email: _____

FEE SCHEDULE

The fee for each tabletop space is $995.00 USD. Any company that pays prior to March 1, 2013 will receive a $50.00 discount for a fee of $945.00 USD.

WHAT IS INCLUDED?

Exhibit space reservation fee will cover a single (6'x 2.5') draped table for placement of materials or exhibits. Any additional requirements for electricity, Internet connections, setup or drayage must be contracted with hotel services.

EXHIBIT PARAMETERS

Each display must be limited to the confines of the (6'x 2.5') tabletop with a **5 foot maximum height off the table** (ceiling height is only 8 feet). Large exhibits that stand on the floor are not allowed. No display may have loud music, audio or lighting that interferes with normal conversation, or is deemed problematic by conference management. No exhibit may have any flammable or hazardous materials, operating machinery or heavy equipment. Please direct any specific questions or concerns to IDA Headquarters – Telephone 614-797-2265, Email: tkane-ida@insight.rr.com.

Please indicate your selections:

____ YES, I want to reserve a tabletop for my company's exhibit materials.

____ YES, I want to receive the early payment (Prior to March 1, 2013) discount.

TOTAL AMOUNT ENCLOSED: $_____

METHOD OF PAYMENT

Indicate the method of payment and fill in the credit card information, if applicable.

____ Pay by check, all checks must be paid in US funds and drawn on a U.S. bank - Payable to: Industrial Diamond Association of America

____ Wire Payment – **Email: tkane-ida@insight.rr.com to receive wire payment information**

CREDIT CARD: ____ VISA ____ MasterCard ____ American Express

Card Number: _____

Expiration Date: _____ Name as it appears on card: _____

Credit Card Billing Address:

Name: _____ Title: _____

Company: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Country: _____

EMAIL, FAX OR MAIL BOTH PAGES OF COMPLETED FORM TO:

INTERTECH 2013 Tabletop Reservations
P.O. Box 29460 • Columbus, Ohio 43229 USA
Fax: 614-797-2264 • Email: tkane-ida@insight.rr.com

AD INSERTION ORDER

ADVERTISING IN FINER POINTS IS THE BEST WAY TO GET YOUR PRODUCTS SEEN

FINER POINTS

"The oldest magazine dedicated solely to the technology and application of superabrasives."

P.O. Box 29460 • Columbus, Ohio 43229 • USA
Phone: (614) 797-2265 • Fax: (614) 797-2264 • E-Mail: TKane-IDA@insight.rr.com

The undersigned is purchasing a _____ page ad for his/her firm at $ _____ per issue for _____ times beginning with the _____, 20____ issue.

Commissionable at 15% for recognized Ad Agencies, if invoice paid within 30 days.

The undersigned has read and agrees to the Finer Points ADVERTISING POLICIES AND RESTRICTIONS as stated on the Finer Points website at www.superabrasives.org/FinerPoints.php

Date _____ Signed by _____

ADVERTISER:

Company _____ Contact _____
Address _____
City _____ State/Province _____ Country _____
Zip/Postal _____ Telephone _____ FAX _____
Email _____

AGENCY: _____ Contact _____
Address _____
City _____ State/Province _____ Country _____
Zip/Postal _____ Telephone _____ FAX _____
Email _____

2013 ADVERTISING RATES

Please check size of advertisement desired. You will be invoiced

	Frequency	1X	4X
Full-page, 7-1/2"W x 10"H, 4 Color		$2110____	$1820____
Full-page, 7-1/2"W x 10"H, Black/2nd Color		$1820____	$1530____
Full-page, 7-1/2"W x 10"H, B & W		$1570____	$1425____
Half-page, 5"W x 7-1/2"H, Four Color		$1240____	$1090____
Half-page, 7-1/2"W x 5"H, Four Color		$1240____	$1090____
Half-page, Either Size, Black/2nd Color		$1090____	$ 950____
Half-page, Black & White		$ 950____	$ 875____
1/3 page, 2-3/8"W x 10"H, 4 Color		$1020____	$ 950____
1/3 page, 2-3/8"W x 10"H, B & W		$ 875____	$ 825____
1/4 page, 4-3/4"W x 4-3/4"H, Color		$ 825____	$ 800____
1/4 page, 4-3/4"W x 4-3/4"H, B & W		$ 750____	$ 725____
Back Cover, Full-page, 4 Color Only	4X Only		$2985____
Inside Front Cover, Full-page, 4 Color Only	4X Only		$2839____
Inside Back Cover, Full-page, 4 Color Only	4X Only		$2766____

Additional Charges (non-commisionable):

BLEED (full page - 8-3/4" x 11-1/4")	$125 additional charge____
PAGE SELECTION	$175 additional charge____

IDA MEMBERS ONLY

Classified ad rates are Non-commissionable $85
_____ All 2-1/4"W x 2-1/4"H

2013/2014 EDITORIAL CALENDAR

Planned issues, topics and closing dates*:

Issue:	Editorial Feature*:	Closing
Winter 2012/2013	INTERTECH 2013 Registration Packet	Dec. 1, 2012
Spring 2013	INTERTECH 2013 Preview	March 1, 2013
Summer 2013	INTERTECH 2013 Review and Highlights	June 1, 2013
Fall 2013	Grinding & Machining Advancements	Sept. 1, 2013
Winter 2013/2014	Superabrasive Industry Review	Dec. 1, 2013
Spring 2014	Diamond, cBN and Polycrystalline Materials	March 1, 2014

***Editorial topics & closings subject to change**

SHIPPING INSTRUCTIONS

Fax, mail or email all printing materials to:

Production Manager
FINER POINTS MAGAZINE
P.O. Box 29460
Columbus, Ohio 43229 USA
Phone: 614-797-2265
Fax: 614-797-2264
E-Mail: tkane-ida@insight.rr.com

INTERTECH 2013 PROMOTIONAL OPPORTUNITIES

Sponsor listed in program and recognized on sign at conference event!

CHECK SPONSORSHIP REQUESTED

Email a PDF of company logo file for any of the below to:
tkane-ida@insight.rr.com - Questions? Call: 614-797-2265

☐ I want an Ad in Conference Program brochure
(fill out form at the bottom) ..... $500 USD

☐ I want a Banner Ad on the INTERTECH 2013 Website
(fill out form at the bottom) ..... $500 USD

☐ I want to Sponsor Events (receptions, speakers, dinners) at INTERTECH 2013

1. ☐ Full Event - includes Premium Sponsor Listing in program, Proceedings CD, Banner Ad on Website and Signage for **ALL** events .....$2000 USD

Individual sponsorships – signage at event

2. ☐ A/V Sponsorships (listed in conference room 3 days)..... $1000 USD
3. ☐ Daily sponsor (listed on day selected) Indicate Day _____ ..... $500 USD
4. ☐ Presenter sponsor (listed on day speaker presents) Indicate Speaker/Day _____ ..... $500 USD
5. ☐ Welcome Reception (listed in Reception Area) ..... $500 USD

INTERTECH 2013
An International Technical Conference on Diamond, Cubic Boron Nitride and their applications.
www.intertechconference.com
Hyatt Regency Baltimore Harbor
BALTIMORE, MARYLAND USA
May 6, 7 & 8, 2013

METHOD OF PAYMENT:

Check the method of payment and fill in the credit card information, if applicable.
(All checks must be paid in U.S. funds and drawn on a U.S. bank.)
☐ Check - Payable to: Industrial Diamond Association ☐ VISA ☐ MasterCard ☐ American Express
☐ Wire Payment (email: tkane-ida@insight.rr.com or fax Industrial Diamond Association for Bank wire Information)

Amount to be charged to credit card: $ _____ Card Number: _____

Expiration Date: _____ Name as it appears on card: _____

Credit Card Billing Address: _____

Company: _____

Contact Name: _____ Title: _____

Address: _____ City: _____

State/Province: _____ Country: _____ Zip/Postal Code: _____

Tel: _____ Fax: _____ Email: _____

PLEASE FAX COMPLETED FORM TO IDA HEADQUARTERS AT: 614-797-2264
YOU CAN REGISTER ON-LINE AT WWW.INTERTECHCONFERENCE.COM

PLEASE FILL OUT THE FORM BELOW FOR INTERTECH 2013 SPONSOR and fax to: 614-797-2264 or Email: tkane-ida@insight.rr.com (include file of company logo)

Company: _____

Address: _____

City: _____

State: _____ Zip/Postal Code: _____

30 Word Company Description: _____

_____

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SPONSOR AD SAMPLE SHOWN HERE
Actual Sponsor ad size 2.5" high x 3.5" wide

Industrial Diamond Association of America, Inc.
P. O. Box 29460
Columbus, Ohio 43229 USA

Association of superabrasive and ultrahard material suppliers, tool manufacturers, component producers, machine tool builders, end users, educators and others related to the application, manufacture use and sales of superabrasives.

Is a proud sponsor of ... INTERTECH 2013 — An International Technical Conference on Diamond, Cubic Boron Nitride and their applications. www.intertechconference.com — Hyatt Regency Baltimore Harbor BALTIMORE, MARYLAND USA May 6, 7 & 8, 2013

INTERTECH 2013 WEBSITE BANNER AD REQUEST AND RESERVATION

The Banner ads rotate their position on the webpage, so each time a viewer visits your ad will be in a different location from top to bottom. In this way all companies share in the prime top spot location.

If you select a Website Banner ad for INTERTECH 2013. We will reserve a space on the Registration & Sponsorships link under "corporate sponsors" on the INTERTECH 2013 website. Mail the completed banner ad designed to fit in a window 238 pixels wide by 80 pixels high (approximately 4.25" X 1.25") either on a CD to: Industrial Diamond Association of America, P. O. Box 29460, Columbus, Ohio 43229 USA or by Email to tkane-ida@insight.rr.com in a jpg or gif picture file, or as a PDF file.

WEBSITE DESIGN SAMPLE:

Industrial Diamond Association of America, Inc.
P.O. Box 29460
Columbus, Ohio 43229 USA
Tel: 614-797-2265 - Fax: 614-797-2264
www.superabrasives.org
email: tkane-ida@insight.rr.com

INTERNATIONAL TRAVEL TO USA

As in the past, we are looking forward to a large contingent of International attendees traveling to Baltimore Maryland for **INTERTECH 2013** and as much as possible, we will assist attendees in obtaining a Visa. Keep in mind the staff for **INTERTECH** has little or no influence or ability to "speed up" the process. That is all determined by the attendee's country of origin and the US Embassy in that country. Advance travel planning and early Visa application are extremely important, since Visa applications are subject to a greater degree of scrutiny than in the past. **It is recommended that requests for a travel Visa to the USA be submitted to your local embassy as soon as possible prior to INTERTECH 2013.**

DO YOU REQUIRE AN INVITATION LEFFER FOR A VISA?

If you require a formal invitation letter for a Visa to enter the USA and attend **INTERTECH 2013** please send an email request to tkane-ida@insight.rr.com and request an invitation letter. In this request you must provide: 1) The dates you will arrive and depart the USA; 2) Your full name; 3) Your company name; 4) Your job title; 5) Your complete mailing address; 6) Your passport number; 7) The country of issue for your passport.

WEBSITES FOR VISA INFORMATION

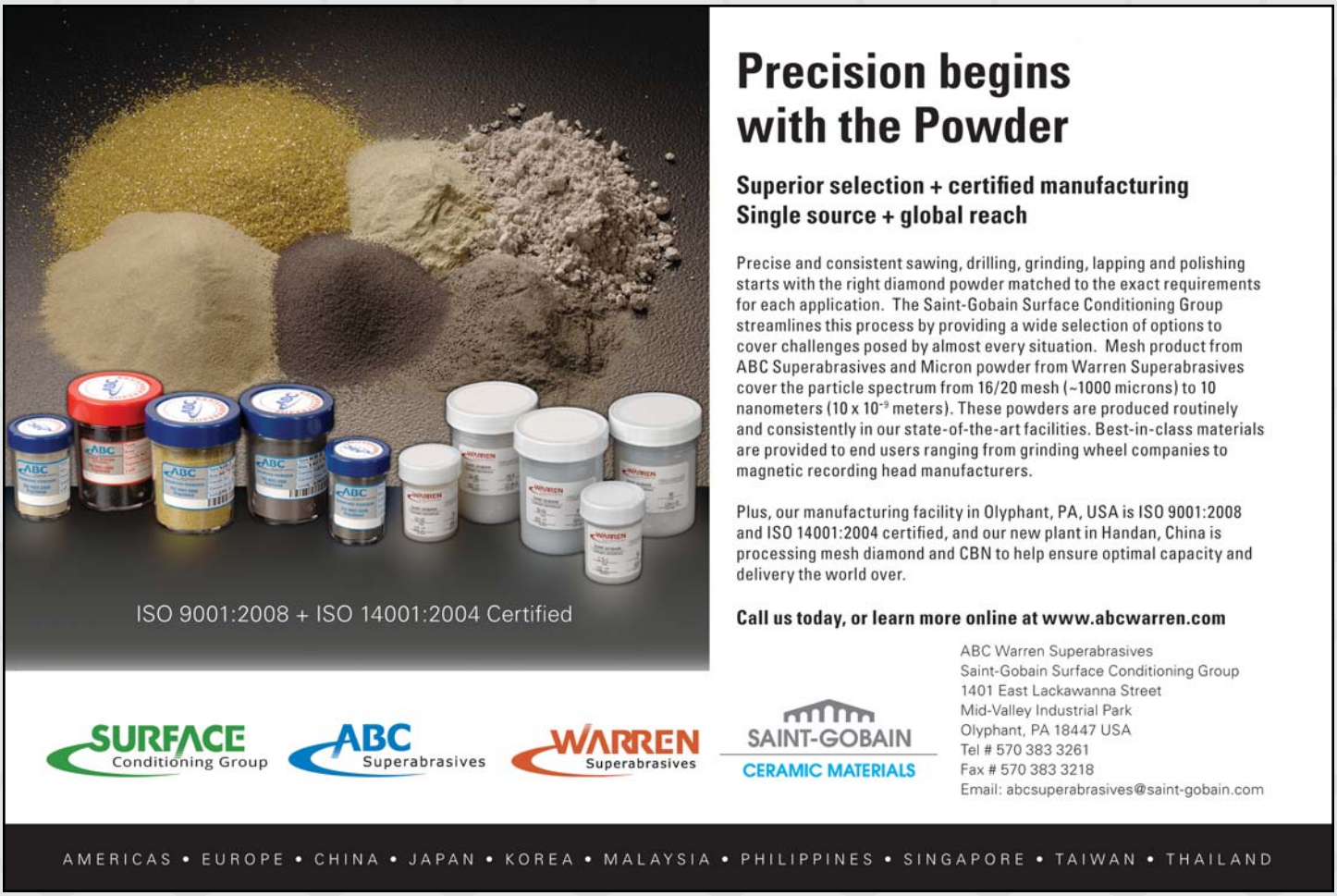
A citizen of a foreign country, wishing to visit the USA, generally must first obtain a Visa. If you go to the website: http://travel.state.gov/visa/visa_1750.html you will find the Visa section for Temporary Visitors to the USA: http://travel.state.gov/visa/temp/types/types_1286.html This site is an official source of information about the United States of America (U.S.A.) Visa policy and procedures and can assist in explaining new Visa policies and procedures for visitors to the United States.

HOW LONG WILL IT TAKE TO OBTAIN A VISA?

Recent changes in U.S. laws governing Visa policy and procedures have increased the amount of time it can take to obtain a Visa. Apply early! Even with the Visa processing improvements that have been made and will continue to be made, it is inevitable that delays will sometimes occur. Processing times will vary. The State Department's goal is Visa delivery no more than 30 days from the time of application in most cases, although cases that require administrative processing could take longer. Most administrative processing is resolved within 60 days of application. When administrative processing is required see: http://travel.state.gov/visa/a_zindex/a_zindex_4353.html, the timing will vary based on individual circumstances of each case. Therefore, before making inquiries about status of administrative processing, applicants or their representatives will need to wait at least 90 days from the date of interview or submission of supplemental documents, whichever is later. If you want to visit the U.S. and require a Visa, plan to schedule your Visa interview well in advance of your departure date. Learn more by reviewing this website information and contact the U.S. embassy or consulate where you will apply for detailed "how-to" instructions.

QUESTIONS?

See "Questions about Visas" http://travel.state.gov/visa/questions/questions_1253.html Please visit the news section on the travel Visa website for information on developments in USA Visa policy, press releases and more.


ISO 9001:2008 + ISO 14001:2004 Certified
Precision begins with the Powder
Superior selection + certified manufacturing
Single source + global reach
Precise and consistent sawing, drilling, grinding, lapping and polishing starts with the right diamond powder matched to the exact requirements for each application. The Saint-Gobain Surface Conditioning Group streamlines this process by providing a wide selection of options to cover challenges posed by almost every situation. Mesh product from ABC Superabrasives and Micron powder from Warren Superabrasives cover the particle spectrum from 16/20 mesh (~1000 microns) to 10 nanometers (10 x 10-9 meters). These powders are produced routinely and consistently in our state-of-the-art facilities. Best-in-class materials are provided to end users ranging from grinding wheel companies to magnetic recording head manufacturers.
Plus, our manufacturing facility in Olyphant, PA, USA is ISO 9001:2008 and ISO 14001:2004 certified, and our new plant in Handan, China is processing mesh diamond and CBN to help ensure optimal capacity and delivery the world over.
Call us today, or learn more online at www.abcwarren.com
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ABC Warren Superabrasives
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Olyphant, PA 18447 USA
Tel # 570 383 3261
Fax # 570 383 3218
Email: abcsuperabrasives@saint-gobain.com
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INTERTECH 2013 INTERNATIONAL CO-SPONSORS

INTERTECH 2013 is an internationally sponsored event and these leading Global Organizations represent the far reaching memberships that support the ongoing technological research and worldwide cooperation for superabrasive use and development.

Abrasive Engineering Society
http://abrasiveengineering.com

International Association Of Concrete Drillers and Sawers
http://www.iacds.org

The American Ceramics Society
http://ceramics.org

Industrial Diamond Association of America
www.superabrasives.org

AMT THE ASSOCIATION FOR MANUFACTURING TECHNOLOGY
www.amtonline.org

Industrial Diamond Association of China
www.idacn.org

ASM International
www.asminternational.org

Industrial Diamond Association of India
www.idai.org

Assodiamante

Industrial Diamond Association of Japan
www.alles.or.jp/~idajapan/eindex.htm

Concrete Sawing & Drilling Association
www.csda.org

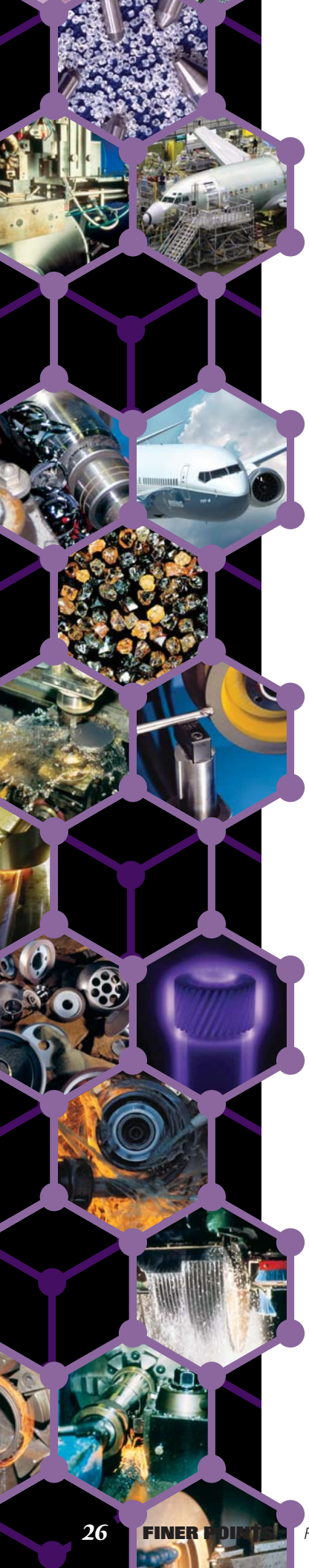
Japan Society for Abrasive Technology
www.jsat.or.jp

Elsevier Diamond Conference
www.diamond-conference.elsevier.com

Society of Manufacturing Engineers (SME)
www.sme.org

F.E.P.A.
http://dnn.fepa-abrasives.org

Unified Abrasive Manufacturers Association
www.uama.org



Educational Session at INTERTECH 2013 – Superabrasive Materials, Principles & Applications

Register today for the Educational Session at INTERTECH 2013 (See Registration Below)

For a tremendous opportunity, **INTERTECH 2013** will be offering an educational program by the Industrial Diamond Association of America (IDA). Superabrasives are critical to all of industry due to their longevity, properties and characteristics. This program to be held on Wednesday, May 8 as a concurrent session at the **INTERTECH 2013** conference will be unlike any educational program ever offered by this industry.

- ***TAUGHT BY LEADING EXPERTS FROM THE IDA*** and established solely for the purpose of educating attendees without any commercial influence or individual bias as experienced by attendees at previous "training" courses.
- ***EDUCATION FOR A WIDE RANGE OF PEOPLE*** employed throughout the superabrasives industry. The IDA understands that manufacturing needs are paramount for productivity and performance. For an employee, all the way from an operator classification to an application development or manufacturing engineer to fully execute their job, they must understand all there is to know about superabrasives. If anyone is to increase their value to their employer they must have a complete understanding of their own particular job, plus a fundamental knowledge of the way their job fits in the overall scheme in the big picture.
- ***CRITICAL NEED FOR PEOPLE TO FULLY UNDERSTAND THE CHARACTERISTICS OF SUPERABRASIVES*** as well as have an insight to the ways they are applied either as abrasives or nonabrasives. This session will be specifically structured to meet the needs of our industry and the end users industries we support though tooling and abrasives. The Educational Session will be a draw for an audience at many levels within the industry. Experienced people may use this as a refresher, while those new to the industry may find this session fills a requirement to understand the nuances across the whole spectrum of superabrasives. Now, machine operators, manufacturing supervisors, toolmakers, salesmen, engineers and others can obtain the basics of every aspect about superabrasives and their use.
- ***HISTORY OF ABRASIVES BOTH CONVENTIONAL AND SUPERABRASIVES*** will be covered and how they evolved over the years. It will cover terms that are frequently used so everyone "speaks" the same language. The attendee will be able to see how various conventional abrasives and other methods such as Water jets, EDG, sound waves and lasers fit in the overall scheme of things in the manufacturing world. Then the session will go into the world of superabrasives and cover natural diamond, synthesized diamond, cubic boron nitride (cBN), polycrystallines and the new CVD Diamond and cBN. The approach will be to explain the very properties and characteristics of these superabrasives and also show why they are used in so many non-abrasive applications like prosthetics, wear parts, medical devices, laser windows, surgical knives and even as carriers of medicine at the nano range.
- ***BASICS OF MACHINING AND GRINDING*** will be covered but with a detail to the "why's and wherefores" of the processes. What is a grinding wheel? How is it made? What determines its performance? Same thing with machining ... What makes a cutting tool? How applied and what materials can be machined? There will be coverage given to the intricate part of an abrasive process, showing what is happening at the point of material removal. The attendee will gain a full understanding of the entire process ... abrasives, tools, work piece materials, coolants and even the machine tools. An attendee won't just know that truing and dressing is required, they will learn why ...
- ***ADDED FEATURES -*** the course will cover any other abrasives and materials used from drill bits in oil & gas to sawblades and core bits in concrete and construction. An important portion will be coverage on the economics of superabrasives and the ways they can improve an operation through cost reduction.

WHO ARE THE PEOPLE AT YOUR COMPANY THAT CAN BENEFIT FROM ATTENDING?

REGISTRATION PAGE FOR EDUCATION SESSION ONLY

Company: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Country: _____

Phone: _____ Fax: _____

Email: _____

ATTENDEES:

Name: _____ Name: _____

Title: _____ Title: _____

Name: _____ Name: _____

Title: _____ Title: _____

Name: _____ Name: _____

Title: _____ Title: _____

Name: _____ Name: _____

Title: _____ Title: _____

TOTAL Number of Educational Session Reservations _____ @ $325 UDS Each = _____

Fax to: 614-797-2264 or email this completed form to tkane-ida@insight.rr.com

INTERTECH 2013 TECHNICAL ADVISORY COMMITTEE

The **INTERTECH 2013** TECHNICAL ADVISORY COMMITTEE will provide the technical guidance and recommendations for the technical portion of INTERTECH 2013. They will also provide formal review of the submitted abstracts and papers to insure that the quality and content of each paper is relevant and representative of the technology for the superabrasives industry and guarantee each conference session will consist of the best research papers and state-of-the-art topics for our industry. The TECHNICAL ADVISORY COMMITTEE is a standing committee in itself to assist through-out the year to expand technical programs of the IDA and to make sure the content of technical information is legitimate, viable and valuable. Dr. Ion Benea will serve as the founding Chairman of this committee; future chair people to be voted on by committee. Anyone willing to serve has a position as long as they want it providing they follow IDA code of ethics as outlined in the IDA By-laws. The TECHNICAL ADVISORY COMMITTEE (as technical advisory body) will be made up of scientists and engineers well known in the world of superabrasives. The goal is to improve on the technical content of **INTERTECH** Conferences. Consequently, the IDA has reached out to industry, research and academia (universities) for help in forming this committee. The goal is for the Technical Advisory Committee to have a balanced composition between industry, research and academia.

TECHNICAL ADVISORY COMMITTEE - MEMBERS

For Biographies and photos visit www.intertechconference.com

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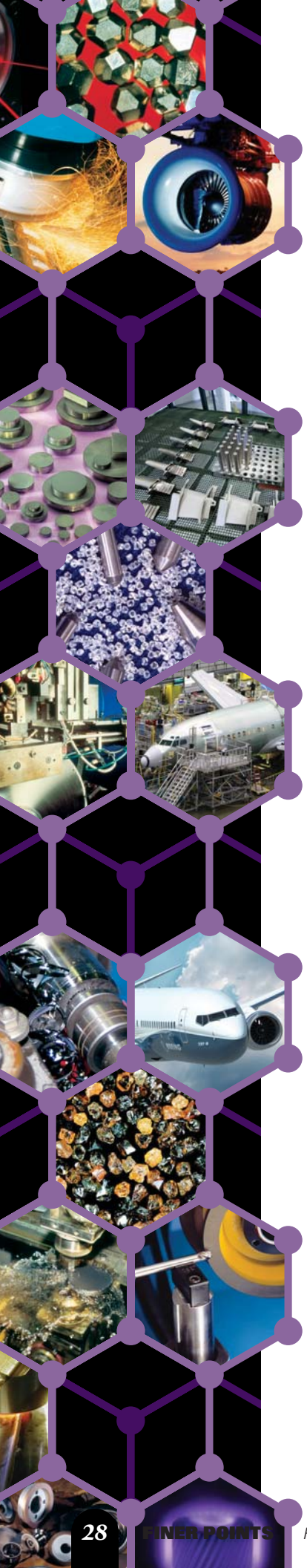
Sao Paulo State University - Unesp
Department of Mechanical Engineering
Bauru, SP, Brazil



INTERTECH 2013
Deadlines, Requirements & Guidelines

"All papers must adhere to the following guidelines for final acceptance as an oral presentation. The deadlines listed are critical due to the fact that all presentations and papers (Proceedings) will be loaded onto thumb drives and handed out to attendees of INTERTECH 2013"

1. ABSTRACTS MUST BE RECEIVED BY MARCH 1, 2013
   a. Abstracts can be submitted on-line at www.intertechconference.com or submitted by email to: tkane-ida@insight.rr.com. They may also be mailed to INTERTECH 2013 Abstract - P.O. Box 29460 - Columbus, Ohio 43229 USA
   b. All abstracts will be assigned a conference reference number (1301-1399) and the submitter will be notified by email of receipt. All further correspondence must reference this assigned number.
   c. Abstracts will be reviewed by the INTERTECH Technical Advisory Committee (TAC)
   d. After review each submitter will receive one of four notifications:
      i. Paper accepted for final presentation
      ii. Paper will be accepted with recommendations
      iii. Paper will only be considered if a new abstract is submitted with changes by review committee included
      iv. Paper refused as inappropriate for INTERTECH – Submitter may choose to submit a new abstract
2. AFTER ABSTRACT ACCEPTED & APPROVED, THE FIRST FULL WRITTEN DRAFT OF PAPER IN MICROSOFT WORD MUST BE RECEIVED BY THE REVIEW COMMITTEE PRIOR TO APRIL 1, 2013. They may be emailed to INTERTECH 2013 Paper # (include reference #) to: tkane-ida@insight.rr.com. They may also be mailed to INTERTECH 2013 Paper # (include reference #) - P.O. Box 29460 - Columbus, Ohio 43229 USA. If Paper is being mailed on a CD they can be mailed to INTERTECH 2013 c/o Kane Global Communications, 6081 Central Park Drive, Columbus Ohio 43231 USA
3. If paper is declined for content or appropriateness for this conference, suggestions or recommendations by the committee for paper clarification will be sent back to the author at that time.
4. FINAL DRAFT (IN WORD) ALONG WITH YOUR POWERPOINT PRESENTATION WITH GRAPHICS AND PHOTOS MUST BE RECEIVED ON A CD BY APRIL 15, 2013 AT: INTERTECH 2013 CONFERENCE, 6081 CENTRAL PARK DRIVE, COLUMBUS, OHIO, 43231 USA. If the files are small enough, they may be emailed to INTERTECH 2013 Paper # (include reference #) to: tkane-ida@insight.rr.com.
5. POWERPOINT PRESENTATION MUST ADHERE TO THE TEMPLATE FORMAT LISTED UNDER "PRESENTATION TEMPLATE" AT THE INTERTECH WEBSITE LINK
6. Make sure your name, title, any contributors or coauthors as well as the INTERTECH 2013 reference number are included on the outside of the CD. This will be loaded into the Conference computers for projection. You are also advised to bring a backup CD or flash drive in case there is a problem with the one you mail.
7. Multiple contributors may be listed on the paper, but the first person listed will be considered the presenter for the INTERTECH 2013. Additional contributors for the paper will be listed in the conference program as coauthors.
8. English will be the language for all materials and oral presentation. Papers need to be written in English and we ask that a person with an excellent command of English, or English as their first language review the paper prior to submission for accuracy of terminology.
9. Time allotted for each paper will be approximately 40 minutes, 30 minutes for the formal presentation and 10 minutes for questions.
10. Please write paper using the third person to avoid commercialization and improve the credibility of the paper.
11. It is preferred that instead of "I found", "we studied", "my results", "our company developed a process" and similar terminology, the paper be written and stated in terms of "it was found", "studies were made", "the results were" or "a process was developed".
12. Advantages of product use or development in terms of productivity, savings or performance must be shown in all papers. Projected or proven examples should be included.
13. Graphics should be clear and easy to read from the back of a large room, please use bullets and avoid too much text. When designing your slides it is better to have more slides with less text in a larger font, instead of fewer slides with more text in a small font. If you cannot read the text clearly on a computer screen in "normal slide view" the audience will not be able to read it either.
14. Photographs of applications, products, parts, etc. MUST be included wherever possible. Due to the many languages spoken by attendees, photos and graphics add clarification and understanding to the presentation. This helps the audience understand many of descriptions, products and applications.
15. Trade names must not be used for any products featured in the presentation and no company reference (except in terms of end use, such as General Motors, Boeing, Ford and the like) should be used in the presentation.
16. Company logos, titles, etc. of presenters and their company may only be on the introductory slide/graphic and not used through the presentation or on every slide. This makes the paper look too commercial. If you are speaking about a company machine in a given operation, the photos should not show logos or company names.
17. Text must be composed in Microsoft Word with indication of where graphics will be used. Graphics, photos and charts for presentation support must be created and submitted in Microsoft PowerPoint. This is being done to keep uniformity of the presentations and to allow for preloading of all presentations into the conference computer systems. Conference computers will be PCs loaded with Microsoft Office and will not open other programs.
18. Overhead projectors or 35 mm slide projectors will not be provided. All presentation graphics/slides and photos will be shown on computer projection systems. If a presenter require overheads, or another form of graphic support, they will need to submit a request in writing to the Program Review committee c/o Industrial Diamond Headquarters P.O. Box 29460, Columbus, Ohio 43229 by April 1, 2013 or email: tkane-ida@insight.rr.com

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We anticipate and excellent program and will be proud to have you as part of INTERTECH 2013 the international conference on diamond, cBN and their applications ...

Industrial Diamond Association of America, Inc.
MEMBERSHIP APPLICATION

Company _____ Address _____

City _____ State _____ Zip Code/Postal Code _____ Country _____

Shipping Address (Can not ship to PO Box) _____

City _____ State _____ Zip Code/Postal Code _____ Country _____

Phone _____ Fax _____

E-mail _____ Web Site _____

Official Representative _____

Others (Participating in IDA Activities) _____

Principle Business Activity _____

Which applies to your company: _____ Corporation _____ Partnership _____ Sole Proprietorship

Provide names of principle officers or partners: _____

When was your company established? _____

How long has your company been engaged in superabrasive/ultra-hard material industry? _____

List at least two business references which are current IDA REGULAR MEMBERS. REQUIRED for Consideration

1. _____

2. _____

CHECK APPROPRIATE MEMBERSHIP

_____ Regular Membership

Any company and/or individual classified as a superabrasive/ultra-hard material supplier, tool maker, machine tool builder or related business which HAS an office and a local, state or province business license in the United States, Canada or Mexico is eligible for membership in this category. Only one individual shall be designated by each member company as the IDA Delegate with voting and other privileges described in the By-Laws.

(DUES CATEGORY)

The dues category for Regular Members is determined by annual sales volume expressed in US $ as indicated below. Check to appropriate category:

_____	Category 1	$2,750 per year	Over $20,000,000 Annual Sales
_____	Category 2	$2,090 per year	$10,000,000 - $19,999,999 Annual Sales
_____	Category 3	$1,850 per year	$6,000,000 - $9,999,999 Annual Sales
_____	Category 4	$1,450 per year	Under $2,000,000 - $5,999,999 Annual Sales
_____	Category 5	$1,095 per year	Under $1,999,999 Annual Sales

_____ International Membership

Any company and/or individual in the diamond and/or cBN business which DOES NOT have an office and a local, state or province business license in the United States, Canada or Mexico is eligible for membership in this category. An International member shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for International Member is **$3990 per year**.

_____ Associate Membership

Available for companies having a principal office in the U.S.A., Canada or Mexico, which are ***providing products or services to companies within the superabrasive/ultra-hard material industry***, but are not engaged in selling, using or dealing in industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn. An Associate member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for an Associate is **$515 per year**.

_____ End User/Contractor Membership

Available for any global companies or individuals, which USE products classified as superabrasives or ultra-hard materials, but are *NOT ENGAGED IN SELLING* industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn. An End User/Contractor member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for an End User/Contractor is **$386 per year**.

_____ Academia/Research Membership

Any non-profit Academic institution or R & D organization is eligible for membership in this category. An Academia/ Research/ member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for Academia/Research is **$155 per year**.

_____ Student Membership

Any FULL TIME Student *NOT ENGAGED IN SELLING* industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn is eligible for membership in this category. A Student shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA.Annual fee for a Student Membership is **$77 per year**.

_____ Senior Membership

Any individual who has worked for and/or retired from an IDA Member company or is no longer active in the diamond or CBN business is eligible for membership in this category. A senior member shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting, hold proxies or serve in any office in IDA. Annual fee for a Senior is **$52 per year**.

Name of Delegate Member: _____

Title: _____

E-Mail: _____

**** Applications for ALL Memberships are reviewed by the Board of Directors and must be approved by a two-thirds vote.***

_____ Affiliate Membership

Each company that enrolls as an IDA Member is entitled to have a second person at that company designated an Affiliate Member. The first Affiliate member will receive IDA material at no further cost. Additional persons at Member companies can be added as Affiliate Members to receive IDA materials. Annual fee for additional Affiliates is $98 per person. Name of 1st Affiliate Member (no charge):

Name of 1st Affiliate Member (no charge): _____

Name of 2nd Affiliate Member ($98): _____

Name of 3rd Affiliate Member ($98): _____

If your company wants more Affiliate Members, please attach additional sheets.

WHAT IS THE IDA?

The Industrial Diamond Association of America, Inc. **is a non-profit trade association and was incorporated on March 29, 1946 in the State of New York. It is the oldest and most prestigious association in the superabrasive/ultrahard materials industry. Activity and focus has evolved from natural diamond to superabrasives and most recently, to all ultrahard materials including CVD Diamond. Members include material suppliers, tool manufacturers, component producers, machine tool builders, end users, academia/research affiliates and other companies related to the research, manufacture, application, use and sales of superabrasives.**

WHAT DOES THE IDA DO?

- Oversees Statistics Reporting Program
- Establishes Industry Standards
- Interacts With Global Associations And Organizations
- Creates And Distributes Market Studies & Data
- Organizes And Presents Technical Seminars & Conferences
- Serves As A Government Liaison For Industry Guidelines And Regulations
- Participates As Member Of World Diamond Council
- Provides Safety / Regulatory Reports And Advisement
- Resource For General Information And Consultation

OTHER MEMBER SERVICES

- PUBLISHES QUARTERLY MAGAZINE
- HOLDS ANNUAL CONVENTIONS
- HOSTS IDA WEBSITE WITH MEMBER FOCUS AND DIRECTION
- PROVIDES SPECIFIC ASSISTANCE ON INDIVIDUAL MEMBER ISSUES
- CREATES AND DISTRIBUTES PUBLICATIONS ON PRODUCTS AND APPLICATIONS
- ACTS AS A COLLECTIVE VOICE FOR INDUSTRY CONCERNS

FAX completed membership form to 614-797-2264

INTERTECH 2013 LOCAL TRAVEL • MAY 6-8, 2013

HYATT REGENCY BALTIMORE INNER HARBOR

300 Light Street • Baltimore, Maryland, USA 21202 • Tel: +1 410 528 1234 Fax: +1 410 685 3362

INTERNATIONAL TRAVEL

INTERTECH attendees should schedule their flights into Baltimore Washington International (BWI) Airport

TAXI INFORMATION

Approximate Taxi Rate from Baltimore Washington International (BWI) Airport to Hyatt Regency Baltimore Inner Harbor - $35.00 USD ... Note: The rate for your return trip will be governed by the local regulations which apply to your return taxi transportation provider and will vary slightly from fares listed. Call the local taxi provider for information about their rates for your return trip.

LOCAL TRAVEL TO HYATT REGENCY BALTIMORE INNER HARBOR

Hotel Address: Hyatt Regency Baltimore
300 Light Street
Baltimore, Maryland, USA21202
Tel: +1 410 528 1234 Fax: +1 410 685 3362

For driving directions please enter the above address into your GPS system or enter into a mapping website directions are also shown below.

DRIVING INFORMATION

From Baltimore Washington International Airport: 10 miles to Hyatt Regency Baltimore Start out going West on I-195 West for 1.1 miles. Merge onto MD-295 North via Exit 2A toward Baltimore / I-695 for 8.0 miles. You will pass 2 stadiums on the Right. Turn Right onto West Pratt Street for 0.4 miles. Then turn Right onto Light Street and end at 300 Light St.

From North (I-83): Take I-83 South towards Baltimore. Exit I-83, via ramp at sign reading I-695 West / I-83 to Baltimore. (go .35 miles). Continue on I-83 S (go 9.73 miles). Take Exit 4 towards St. Paul Street. (go .12 miles). Turn Right on St. Paul Street (go .4 miles). Continue on St. Paul Street as it becomes Light Street. (go .3 miles). Hyatt Regency Baltimore is on the right.

From North (I-95): Take I-95 South towards Baltimore. Turn off onto ramp towards I-395 / Downtown. (go .3 miles). Merge onto I-395 North. (go 1.0 miles). Continue North on South Howard St. (go .2 miles). Turn Right (East) onto West Pratt Street (go .3 miles). Turn Right (South) onto Light Street (go .1 miles). Hyatt Regency Baltimore is on the right side.

From South (I-95): Take I-95 North towards Baltimore. Turn off onto ramp towards I-395 / Downtown. (go .3 miles). Merge onto I-395 North (go 1.0 miles). Continue North on South Howard Street (go .2 miles). Turn Right (East) onto W. Pratt St. (go .3 miles). Turn Right (South) onto Light Street (go .1 miles). Hyatt Regency Baltimore is on the right side.

From South (I-295): Take MD-295 North towards Baltimore (all the way to downtown). Turn Right (East) onto West Pratt Street (go .3 miles). Turn Right (South) onto Light Street (go .1 miles). Hyatt Regency Baltimore is on the right side.

From West: Take I-70 East towards Baltimore. Take the I-695 South / I-695 North exit - Exit 91A / 91B Towards I-95 South / Baltimore / Glen Burnie / I-95 North / New York. (go .22miles). Keep Right at the fork in the ramp. (go .51 miles) Merge onto I-695 South (go 4.52 miles). Take the I-95 North / I-95 South exit - Exit 11A / 11B - towards Baltimore/Washington (go .37 miles). Keep Left at the fork in the ramp. (go .80 miles). Merge onto I-95 North (go 3.0 miles). Take the I-395 North exit - Exit 53 - towards Downtown. (go .52 miles). Merge onto I-395 North (go .40 miles). Take I-395 North towards Downtown / Inner Harbor. (go .62 miles). I - 395 North becomes South Howard Street (go .16 miles)

BALTIMORE'S INNER HARBOR WATER TAXI

Traveling by water taxi in Baltimore is more about the journey than the destination. Traveling on the water taxi from popular attractions like the

Inner Harbor or Fort McHenry to waterfront neighborhoods like Fells Point or Canton usually is slower than other modes of transportation, but it's a delightfully relaxing way to see the city.

How to Ride the Water Taxi ... Water Taxi stops are clearly marked on land. Find one and wait for the next boat. In the summer expect a 15-30 minute wait depending on the popularity of the stop. Pay on board the boat and receive a hand stamp good for all day. Tickets on board are cash only (You can purchase tickets using a credit card online or at the Baltimore Visitors Center in the Inner Harbor). Adult tickets receive a "letter of marque" (a.k.a a brochure of about two dozen coupons).

Cost ... Water Taxi tickets are good for unlimited rides for one day.

- $10 for adults
- $5 for children

Stops ... The Water Taxi is rarely a straight shot from one landing to another and can often require a transfer. Fells Point, Harborplace, and Fort McHenry are among the most popular stops. Be sure to ask your captain if you're unsure of your route.

- National Aquarium
- Maryland Science Center
- Pier Five
- Maritime Park
- Fells Point
- Harborplace
- Rusty Scupper restaurant
- Harbor East
- Tide Point
- Canton
- Captain James Landing restaurant
- Fort McHenry (April through September only)

Water Taxi Hours and Seasons... The Water Taxi runs all year, but hours and number of boats running are more limited when it's not summer. Check when you get on the boat when the last one of the evening is for your return stop. For instance, the last boat from fort McHenry in the summer is at 5 p.m., though service elsewhere continues from other stops until 11 p.m. Hours can also vary depending on events for the day; they are extended when there's an evening game at Camden Yards.

CHECKLIST *of things to do...*

FINER POINTS

- ☐ Renew my subscription to Finer Points magazine.
- ☐ Reserve my ad space in the next Finer Points issue.
- ☐ Submit article for consideration in future issue of Finer Points.
- ☐ Send Finer Points my business news, new products, new hires, promotions, industry news and other press release items.
- ☐ Send in my membership application to the IDA.
- ☐ Refer a company to IDA for consideration as a member.
- ☐ Visit the IDA Website at: www.superabrasives.org and submit a question or comment.
- ☐ Contact an IDA member for products or services.

When creating PCD Tooling

TRUST is an outcome.

Trust is earned through a consistent, repeatable experience that adds value to your products. So, when choosing diamond powders for PCD applications, don't leave quality to chance.

Count on Engis to deliver high quality micron diamond powders with properties that are precisely defined and controlled for consistent performance of HP-HT sintered PCD products. Only Engis offers:

- *Unsurpassed expertise in diamond micronizing*
- *Proprietary diamond characterization techniques*
- *Our unique technique for testing the mechanical strength of diamond*

Invest in the value created when you collaborate with the best....

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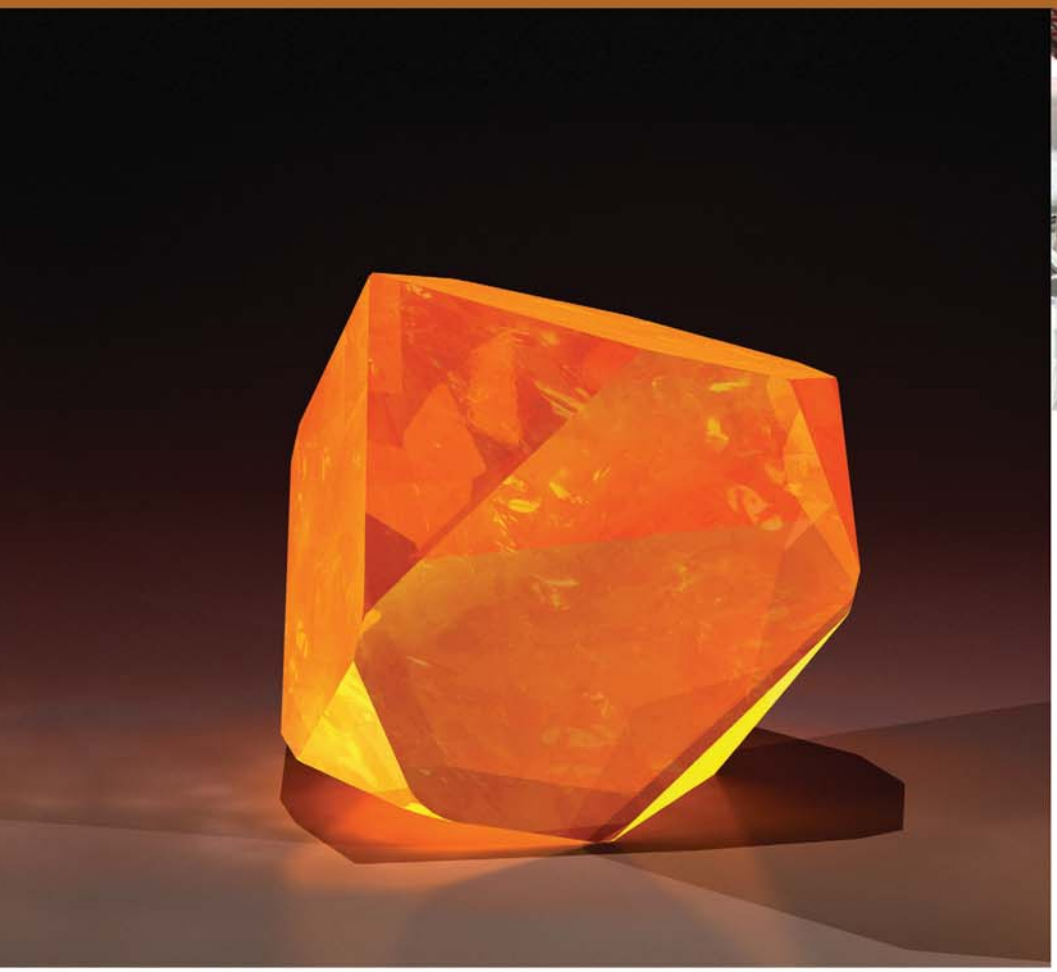
Introducing ABN900.

For precision grinding automotive and aerospace components



ABN900 is a new high-performance grinding material for electroplated applications. It removes material faster with lower grinding forces than previously available grits because it has exceptional high strength, uniformity and a consistent blocky shape. This delivers durability that helps tools to work harder and extends tool life by as much as 55%*. ABN900 is designed for precision grinding hardened ferrous metals and superalloys especially in the automotive and aerospace industries.

Find out more by visiting our website or contact Element Six directly.

* Grinding tests conducted by Element Six with ABN900 50/60 US Mesh show the potential for extending tool life by up to 35%. Tests using ABN900 120/140 US Mesh show the potential for extending tool life by up to 55%. Contact Element Six for details of these tests, product samples and results.

elementsix™

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